THE ROLE OF EMOTIONAL ATTACHMENT

IN CO-PRODUCTION

By

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NOMENCLATURE

alpha	Cronbach's Alpha
df	Degrees of Freedom
F	*F* – Test
t	*t* – Test
p	*p* – value
r	Correlation

LIST OF SYMBOLS

α	Level of Statistical Significance
χ^2	Chi-Square
$\chi^2\Delta$	Chi-Square Difference

CHAPTER I

INTRODUCTION

Companies have long acknowledged the value and importance of customer participation at various levels of the value chain. Customer participation may involve customer's input from the ideation to the production and delivery of a product. Also, customer's participation may occur when the businesses' main value proposition involves a tangible or intangible good. Increasingly, customers are participating in both the creation and delivery of goods as well as services. Companies invest millions of dollars in the creation of systems that engage the customer in activities that were previously company exclusive. New technologies allow businesses to benefit from customer participation in activities ranging from design to production.

Customer participation in the creation of goods is increasing. Prior to the bankruptcy of General Motors, Pontiac allowed greater customization with the 'build your Pontiac' campaign (http://www.pontiac.com). Adidas allows customers to participate in the design of their tennis shoes (http://www.adidas.com/miadidas). Specifically, customers create their own design, which is then fabricated by the company. Other examples that allow customer participation design include Dell (http://www.dell.com). In this approach a customer can configure the computer, personalize the body design and style, or engrave their name. Apple is taking the same approach with its iPod (http://www.store.apple.com).

Examples of customer engagement in hands on production include Build-a-Bear Stores (http://www.buildabear.com) in which customers are allowed to choose from a variety of materials and are guided through the production of their own teddy bear. There are also examples of more complex goods, such as cars (http://www.factoryfive.com), being assembled by consumers. A list of items that are available for partial or total customer production could continue ad infinitum. The point is that the customer's input into the value chain process for manufactured goods is increasing and companies are constantly encouraging customer participation in co-creating goods.

The study of customer participation has been a research stream in the services literature for almost 30 years. The study of customer co-production of goods from the customer perspective, however, is just emerging. With the aid of new technologies, company managers have the opportunity to implement more co-production opportunities for their customers. Published research findings provide support for the idea that companies can benefit from customer participation because it is related to customer satisfaction and customer commitment (e.g., Bagozzi and Dholakia 2006; Dellande, Gilly, and Graham 2004; Bendapudi and Leone 2003). Also, marketing involves satisfying customer's needs and wants. So, if customers participate in the creation of their goods, it is logical to think that the probability of better satisfying the customer's idiosyncratic needs and wants is higher.

As I mentioned above, there are several types of customer input ranging from the ideation of the product to the production or delivery of the product. Each type has its own peculiarities and complexities. In this dissertation I focus my efforts on one type of customer input in the creation of a tangible good. Specifically, I focus on customer co-

production, which is defined as the extent of the customer's hands-on participation in making an object.

Within this context, I contend that hands-on participation in the creation of tangible goods may provide the necessary conditions to elicit psychological reactions toward the co-produced object. More specifically, I propose that customer co-production may create the conditions for emotional attachment to be formed. Emotional attachment (EA) reflects the emotional bond connecting an individual with a specific object. Drawing from existing literature on co-production and emotional attachment, I see that there are several variables (i.e., antecedents and consequences) that seem to be related to both constructs. So, there is evidence to suggest that both variables may be related to each other. Thus, the main purpose of this dissertation is to investigate the role of emotional attachment in co-production.

I investigate the role of EA in co-production under two possible scenarios. The first case is when a customer focuses on the object. This focus on the object means that the value of the co-production task is represented by the material object. In this case, I propose that the reason for this phenomenon is the formation of emotional attachment to the created object. The second scenario I explore is when a co-production activity may result in a focus on the task. This focus on the task means that the value of the co-production task lies within the task itself. I represent this value by the level of task enjoyment. Task enjoyment is the extent to which individuals enjoy performing the task (Dahl and Moreau 2007). Drawing from current literature on consumer behavior and task enjoyment, I see that when people enjoy a task, the focus becomes the task rather than the products of such task. Then, I propose that when the focus of the co-production activity

is the task, then the effect of emotional attachment is suppressed by the effect of the task enjoyment.

Understanding the role of emotional attachment is relevant to marketing because it has been found that individuals expend effort to preserve certain objects to which they have a bond (Belk 1992; Wallendorf and Arnould 1988), and that individuals may become more loss averse if they are emotionally attached to their possessions (Ariely, Huber, and Wertenbroch 2005; Novemsky and Kahneman 2005). Thus, I expect that when EA is formed, there may be less willingness to dispose of the object (WTD).

The understanding of these psychological processes in co-production is relevant to marketing literature and to marketing managerial practice. This study will contribute to the co-production, emotional attachment, and task enjoyment literature by conceptually proposing a relationship between these constructs in the domain of manufactured goods. For managers, understanding the role of EA in co-production is also important because they could manage it according to their marketing strategy. If customers create bonds with their products, they may keep them longer suggesting maintenance service, accessorizing opportunities, repairing, etc. If customers enjoy the task and the object is not the focus, then managers may concentrate their efforts in making the task as enjoyable as possible and this would suggest higher willingness to dispose of the object which could lead customers to request updating, replacing, or simply repurchasing to re-experience the task.

In what remains of Chapter I, I will state the purpose of my study, research questions, research objectives, the proposed models, and then discuss the theoretical and

managerial significance of the study. I end this section by presenting the organization of the rest of the dissertation.

Purpose of the Study

The purpose of this dissertation is to explore the role of emotional attachment in co-production. Emotional attachment and co-production share common antecedents and consequences, thus, it is likely that they could be related in the same nomological network. The relationship between these two constructs has not been investigated. Further, emotional attachment has usually been associated to longer object possession times. I investigate the effect of EA on willingness to dispose of an object under two co-production conditions. First, I investigate the role of emotional attachment when a customer focuses on the object. Second, I explore the role of emotional attachment when a customer focuses on the task.

My goal is to add to co-production and emotional attachment literature by exploring the relationships between the two, and providing insight into conditions under which EA may play a stronger role on intentions to dispose of the co-produced objects.

Research Questions

The research questions are:

1. Does co-production lead the individual to become emotionally attached to the product?
2. Does emotional attachment lead to a lower willingness to dispose of the product?
3. Does task enjoyment focus the customer on the co-production process thereby reducing (or eliminating) the effect of EA?

Research Objectives

The objectives of this dissertation are: (1) to identify the theoretical relationship between co-production and emotional attachment, (2) to empirically test the theoretical relationship between the two constructs, (3) to empirically test the effect of EA under two different conditions: focus on the object and focus on the task. In order to fulfill these objectives, I carefully review the literature on customer co-production and emotional attachment to objects to find a probable relationship between the two. The findings of such a relationship promise considerable contributions to both: co-production and emotional attachment literatures.

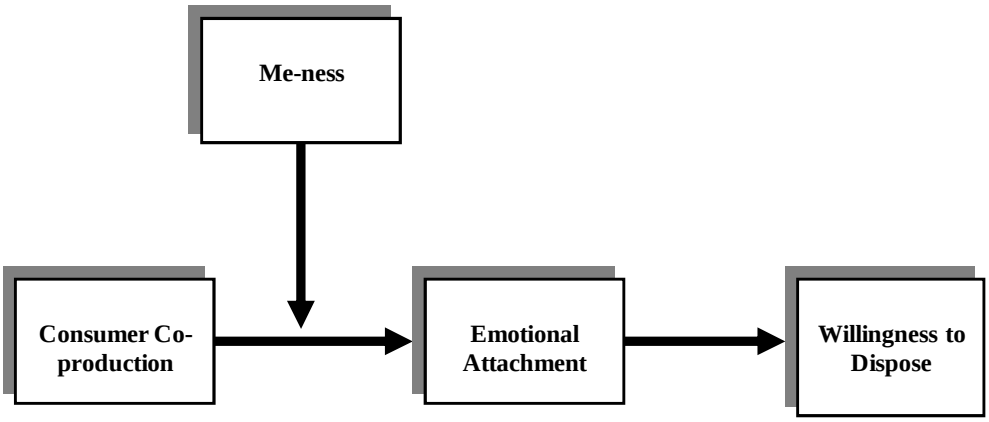
Proposed Model

I investigate the role of emotional attachment in co-production in two conditions. The first condition is when the focus of the co-production activity is the object, and the second condition is when the focus of the co-production activity is the task. In order to better study the phenomenon, I conduct two studies. Next I briefly describe the two studies.

Study 1

The first study is related to the case when there is an object focus. I propose a model where co-production leads to a lower willingness to dispose of an object. This effect is moderated by the level of meness. Meness is defined as the degree to which an object is associated with the self. Finally, the model proposes that emotional attachment is the process mediator of these relationships as shown in Figure 1.

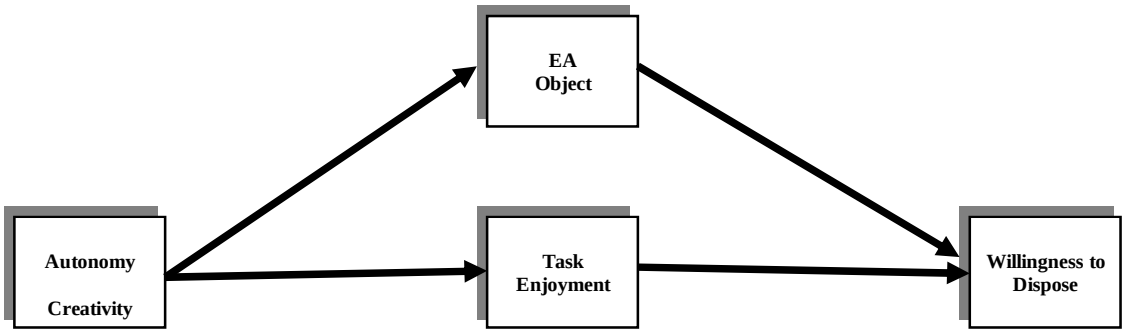
FIGURE 1
THE PROPOSED MODEL IN STUDY 1



Study 2

The second study is related to the case when the focus of the activity is the task. In this case I propose that creativity, which is defined as the generation of ideas, insights, or problem solving solutions that are new and meant to be useful (De Dreu, Baas, and Nijstad 2008), and autonomy, which is defined as the extent of perceived freedom during the hands-on production of a good (Dahl and Moreau 2007), interact to enhance task enjoyment. Then, the model states that when task enjoyment is high, task enjoyment will reduce or eliminate the effect of EA reflected by a higher willingness to dispose of an object as seen in Figure 2.

FIGURE 2
THE PROPOSED MODEL IN STUDY 2



Theoretical Significance

For marketing academics my research is relevant because it adds to the understanding of the nomological network involving co-production and emotional attachment constructs and the relationship among them. There is evidence that both constructs have common antecedents and consequences, but the relationship among the two variables is not known. Only few studies have explored the psychological implications of co-production (e.g., Dellande et al. 2004; Bendapudi and Leone 2003), however the relationship between emotional attachment (EA) and co-production has not been explored. This dissertation fills this theoretical gap in the nomological network involving co-production and emotional attachment.

Managerial Significance

From a managerial perspective, the study of the relationship between EA and co-production is also important. Understanding the relationship and boundaries between the two variables may guide managers to make better decisions in the marketing mix, and the interaction opportunities that they provide to their customers.

Marketing managers can benefit from understanding the relationship between co-production and EA because EA has been related to extended object possession times. If customers create bonds with their products, they may keep them longer. This study may help managers understand the link between co-production and EA in two contexts. First, if the customer focuses on the product and EA is likely to form, then the manager may expect a longer possession time of the co-produced product, thus he may tailor his efforts to better satisfy his customers by providing additional services such as maintenance, accessories, repairing, organizing customer communities, etc. Second, if customers focus on the task and the object is not the focus, then managers may concentrate their efforts in making the task as enjoyable as possible and this would suggest higher willingness to dispose of the object which could lead customers to request updating, replacing, or simply repurchasing to re-experience the task.

Organization of the Dissertation

This dissertation is organized into six chapters. The first chapter introduces the dissertation study, presents the purpose of the research, briefly presents the model for the two studies and discusses theoretical and managerial significance. Chapter II includes a review of relevant literature of the proposed constructs in study 1 and 2. The goal of this chapter is to show that emotional attachment and co-production seem to be related because they share common antecedents and consequences; however this relationship has not been explored. Chapter III begins with a description of the research context. It also provides the theoretical rationale for the proposed relationships in the model and formulates the hypotheses to be tested. Chapter IV presents the research methodology and measures for each of the two studies conducted. Next, Chapter V presents the

research analysis and the findings. Finally, Chapter VI provides an overview of the dissertation, a discussion of the research findings, a description of the theoretical and managerial implications of this work along with the limitations of the present study. I end stating directions for future research.

CHAPTER II

LITERATURE REVIEW

The purpose of this chapter is to show a gap in the literature about the focal constructs of the models in my studies which include co-production, emotional attachment, meness, willingness to dispose, creativity, autonomy, and task enjoyment. The model for study 1 presented in Chapter I proposes that participation in co-production of a good may result in an emotional bond to the co-produced object, which in turn could impact the willingness to dispose of the object. In addition, the model suggests that the effect of co-production on EA depends on the level of meness. The model for study 2 suggests that the effect of EA on willingness to dispose is reduced or eliminated when task enjoyment is high. Task enjoyment results as an interaction between creativity and autonomy. This chapter reviews the literature relevant to these models and more importantly, outlines the research gaps that I am attempting to fill.

This review is organized in five sections. The first section discusses relevant research conducted in the area of customer co-production and related terms. The second section reviews the related literature to emotional attachment. In the third section, I present a review on customer's product disposition and willingness to dispose. Next in the fourth section, I review literature on task focus, autonomy, creativity and task enjoyment. Finally, I discuss the research gaps. The goal of this chapter is to inform the

reader about the current status of research concerning my conceptual framework, and to indicate the gaps that this dissertation is attempting to fill.

In order to understand the proposed relationships in the models, the following sub-sections will present a focused and relevant review of the literature related to the main constructs involved in my conceptual frameworks. The goal of the subsections is to show conceptual foundation for the models, understand the research in each topic, and to clearly identify the gaps in the literature that this work is attempting to fill. It is not a goal of the chapter to postulate hypotheses about the relationships. The next chapter will address the theoretical foundation and the expected relationships that will be tested.

Customer Co-Production and Related Terms

Research on co-production as defined in this dissertation has been limited and scarce at best. Most research has focused on customer participation when the outcomes of such participations are services rather than goods. In addition, there have been many terms that are used as a global term to encompass different types of participation. For example co-creation, consumer participation, or customization are common terms used in the study of customer participation. Although I view co-production as a type of co-creation, I present a comprehensive literature review of co-creation and related terms because the literature concerning co-production as defined in this work is limited. Besides, findings in the co-creation and other customer participation studies may also relate to co-production.

Customer co-creation, which refers to the customer interaction with a company to create a good, is a growing practice in today's marketing efforts of a firm. Companies try to engage consumers in the business process; not only to reduce cost, but also to attain

information from individuals that will enable the firm to better satisfy their customers' idiosyncratic needs and wants. The term co-creation has most often been explored in the services context. Recently, the term has also been used to describe customer participation in the process of making a tangible good as well as in service encounters. The participation of customers in the business process in manufacturing is becoming more common partly due to technological capabilities (i.e., internet). Companies in the manufacturing world are moving towards less rigid processes that allow customers to participate in the creation of their product before the creation of the good and consumption (e.g., Dell, Nike, Yahoo).

Since most of the literature on co-creation is suited within the services context, I start this section with a brief discussion about the difference between goods and services. Then, I define the concept of co-creation. Finally, I discuss the main findings from published co-creation research.

Products: Goods and Services

A product is "a tangible good, service, idea, or some combination of these that satisfies consumer or business customer needs through the exchange process; a bundle of attributes including features, functions, benefits, and uses (Solomon, Marshall, and Stuart 2006, p. 9)." I begin with the definition of a product because co-creation is often referred to as product co-creation. In the strict nominal sense, co-creation of a product involves the customer participation in creating tangible goods, intangible services, ideas, or a combination of these. Most of the literature on customer participation in co-creation deals with the customer being involved in a service encounter. However, sometimes co-

creation is referred to as co-creation of products meaning not services, but tangible goods (e.g., Bendapudi and Leone 2003).

The interaction between the customer and the manufacturing company in industrialized settings is more feasible now; enabled by current technologies. The internet allows customers and companies to interact at any or all of several points in the value chain. Customers are more informed, connected, empowered, and engaged in activities where they were not involved before (Prahalad and Ramaswamy 2004).

Companies and their customers are taking advantage of these possibilities, for example, Adidas, Nike, and Nokia allow customers to interact with the company in the design process of goods; General Motors and Dell allow customers to customize their cars and computers; and Factory Five or Build-A Bear even allow customers to build the good.

In this dissertation, I view products as involving a combination of tangibles and intangibles. I focus the attention on the business processes that deal with the creation of a tangible good. That is, the case when a physical product is used by the individual who co-created it; such usage may involve storage, maintenance, repair, or disposition.

Definition

In order to understand the current meaning of the term customer co-creation, it is important to notice that the term has mostly been used under a services setting where the product is predominantly intangible, although its usage is being extended to other contexts such as brands, and customer communities (e.g., Boyle 2007; Sumeet and Hee-Woong 2007; Bagozzi and Dholakia 2006). In services research, customer participation, which refers to the customer's engagement in the creation and delivery of a service, has

long been acknowledged (e.g., Meuter, Bitner, Ostrom, and Brown 2005; Dellande et al. 2004; Bitner, Faranda, Hubbert, and Zeithaml 1997; Kelley, Donnelley, and Skinner 1990; Mills and Morris 1986; Bowen 1986; Lovelock and Young 1979). For a long time, the focus of customer co-creation was confined to the services field because customer interaction with companies in the co-creation of industrialized goods was limited (Wikstrom 1995; Bowen 1986). Bowen (1986) wrote that customer participation works in the services world, which is different from the industrialized manufacturing world where "customers are typically distant spectators in this game (p.373)." Nowadays, customer participation in production activities of manufactured goods is different. Due to technological innovations, customers can now participate more in the creation of their goods (Sharma and Sheth 2004; Sheth, Sisodia, and Sharma 2000).

In this dissertation, co-creation is part of a model where it functions as an antecedent. In order to define this construct, I reviewed the relevant literature currently available on the subject. Next, I present a summary of the literature reviewed. I begin by presenting implicit and explicit definitions found in previous research. After analyzing and discussing the issues raised by the literature, I set out the terms and definitions as used in this dissertation.

As shown in Table 1, the definition of customer co-creation is inconsistent and usually confounded with other related terms. Table 1 shows that the term co-production was introduced to refer to the customer's participation as a "partial employee" in the service encounter (e.g., Lovelock and Young 1979; Bowen 1986; Dabholkar 1990; Wilkstrom 1995; Youngdahl and Kellogg 1997). It was not until the beginning of the twenty first century that customer participation was extended to the manufactured goods

setting. With the inclusion of the concept of co-creation in the goods context, new terms have been introduced to reflect the customer's interaction with the manufacturing companies. These new terms include: customization (Piller 2005), customerization (Wind and Rangaswamy 2001), consumer empowerment (Prahalad, Ramaswamy, and Krishnan 2000), co-creation marketing (Sheth et al. 2000), and co-production (Lusch, Vargo, and O'Brien 2007; Etgar 2007). The common denominator in these new terms is that the customer can interact with the company –not only in an intangible service process, but also in the production of tangible goods – at one or more levels of the value chain. There are a limited number of empirical papers on co-creation, co-production, or customization (Meuter et al. 2005; Piller 2005), and that may be the cause of such lack of definitional consistency and confusion of terms. In a general sense, it is implied that co-creation means any kind of interaction between a customer and a company that results in a product.

TABLE 1
DEFINITIONS OF CO-CREATION AND RELATED TERMS

AUTHOR	TERM	MEANING/DEFINITION
Boyle 2007	Brand Co-creation	"The customer being an active partner with the marketer in brand-meaning formation (p.122)".
Xu 2007	Creative participation	"Company and customer creating novel and valuable products, services, ideas, and experiences (p.343)".
Etgar 2007	Co-production	Consumers participate in the performance of various activities performed in one or more stages of the operational activities of a company (activities that lead to valuable outcomes to be consumed).
Lusch, Vargo, and O'Brien 2007	Co-creation of Value	"There is no value until an offering is used - experience and perception are essential to value determination (p.7)."
Lusch et al. 2007 Lusch and Vargo 2006	Co-production	Customer's involvement in the service core offering. Doing the offering interacting with the customer.
Meuter et al. 2005	Customer Co-production	Consumers contribute to the service core offering.
Berger, Moslein, Piller, and Recihwald 2005	Mass Customization	"A particular way of serving individual customers, both individually and efficiently (p.70)."
	Customer Co-design	"The process that allows customers to express their product requirements and carry out product realization processes by mapping the requirements into the physical domain of the product (p.71)".
	Co-creation	"The product is a result of cooperation between each single customer and the manufacturer, not only providing benefits, but also demanding input from both sides (p.71)".

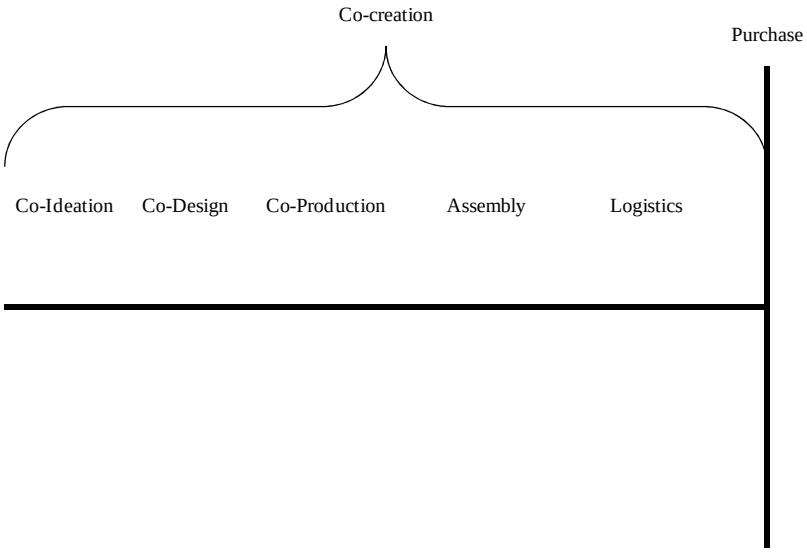
Table 1 (Continued)

Piller 2005	Mass Customization	"Customer co-design process of products and services, which meet the needs of each individual customer with regard to certain product features. All operations are performed within a fixed solution space, characterized by stable but still flexible and responsive processes. As a result, the costs associated with customization allow for a price level that does not imply a switch in an upper market segment (p. 315)".
	Co-creation	"Mode of interaction with the manufacturer who is responsible for providing the custom solution (Do-it-yourself) (p.315)".
	Co-design	"The genus of mass customization. Customers interacting and defining, configuring, matching, or modifying and individual solution p.315)".
Sawhney, Verona, and Prandelli 2005	Co-creation of new products	Customer input in the new product development process.
Prahalad and Ramaswamy 2004	Value co-creation	Interaction between companies and customers to design, develop production processes, crafting marketing messages, and controlling sales channels. The interaction during these activities generates experiences which become the very basis of value.
Wind and Rangaswamy 2001	Customerization	"A buyer-centric company strategy that combines mass customization with customized marketing (p.14)".
Sheth et al. 2000	Co-creation Marketing	Co-creation marketing involves both the marketers and the customer who interact in aspects of the design, production, and consumption of the product or service.

Table 1 (Continued)

Prahalad, Rasmaswamy, and Krishnan 2000	Consumer empowerment	Firms consider customers as partners, give them control over information and decision making at a certain degree, and co-opt their competence in ways that are mutually beneficial.
Rodie and Kleine 2000	Consumer participation	The extent to which customers made direct contributions to the work of the organization.
Lengnick-Hall, Claycomb, and Inks 2000	Co-production	
Youngdahl and Kellogg 1997	Customer participation	Customers prepare for the service, and interact with service providers to obtain the best outcome.
Bitner et al. 1997	Customer participation	Customers themselves participate at some level in creating the service and ensuring their own satisfaction.
Wikstrom 1995	Customer as Co-producer	"The interaction between the parties should generate more value than a traditional transaction process. During which seller and buyer meet briefly, exchange finished products and services and then go their separate ways (p.6)".
	Co-production	"A buyer seller social interaction and adaptability with a view to attaining further value (p. 10)".
	Co-production activities	Company – buyer interaction in one or more of the activities in a value-creating process.
Dabholkar 1990	Customer participation	The degree to which the customer is involved in producing and delivering service (see also Bendapudi and Leone 2003).
Lovelock and Young 1979	Co-production	The customer acting as an employee to create an outcome (see also, Bowen 1986; Kelley, Donnelly, and Skinner 1990; Mills and Morris 1986; Lengnick-Hall 1996).

FIGURE 3
THE CO-CREATION LINE



Drawing from the previous literature, I define co-creation, within the context of the co-creation of tangible goods, as the level of a consumer's interaction with a company in one or more activities that precedes the creation of a tangible product. I refer to co-creation as a level in the sense that it reflects the extent of the customer's participation rather than a dichotomous variable where there is or there is not an interaction. For example, two customers may engage in co-design activities, but their level of participation may vary to the extent of their involvement in the activity, or amount of input and interaction. The interaction is facilitated by the company to create a good. These activities may include product ideation, design, production, and customization among others (see Figure 3). Thus, I conceive of co-creation as an umbrella term that refers to a number of different participative interactions, which may vary in extent, between customer and companies at various levels of the value chain. Next, I compare the term co-creation, as at this point defined, to related terms.

Co-creation vs. Co-creation of Value. The term co-creation differs from the term co-creation of value because the latter happens after customers use the product (Lusch et al. 2007; Etgar 2007). The former, refers to participation by a customer in the process before consumption.

Co-creation vs. Customer (consumer) Participation. Consumer participation is used in the services area, whereas co-creation is used in the manufacturing area to refer to the customer engagement in creating an outcome. The main difference is that in creating products, the customer may or may not participate, but in creating a service, the customer should participate in service delivery (e.g., Dabholkar 1990; Bitner et al. 1997; Rodie and Kleine 2000). Co-creation in this dissertation refers to activities where the output is an object, not only a service.

Co-creation vs. Co-production. Co-production usually refers to the interaction of the customer in the final stages of the product creation (e.g., making the product). Co-production is a subordinate term of co-creation in the final stages of the outcome creation that involves tactile input. Refer to Figure 3.

Co-creation vs. Customization. Customization is another subordinate term of co-creation (see Figure 3). Customization refers to customers' interaction in choosing specific configurations on a base product. For example, when a consumer is buying a suit, the store usually makes some alterations to the chosen selection (tailoring), in order to make it a more exact fit for the customer. The customer may or may not give input regarding the customization, but the company does the alteration. Co-creation also includes the customer designing the suit, sewing the suit, etc.

Co-creation vs. Mass Customization. Co-creation is a term that refers to the customer's involvement in the creation of an object. It pertains to the customer. Mass customization is usually referred as a company strategy. Mass customization is a firm capacity that allows the firm to individually satisfy customer's idiosyncratic needs and wants, but also attain efficiency near to that of economies of scale (Piller 2005).

In sum, I center on co-creation when consumer's interaction occurs before the consumption of the good. Specifically, I investigate co-creation through co-production; when a consumer takes part in the stage of the process that results in the creation of a tangible good, that is, the consumer actually helps make the product.

Relevant Findings

Most of the work done in the co-creation area has been of a conceptual nature. Scholars are still trying to limit the scope of the term, define the activities involved in the process, and its implications (Piller 2005; Etgar 2007). There are a small number of empirical studies that focus on identifying a theoretical network related to the co-creation concept. In order to present relevant findings related to the concept of co-creation, I will do it in the following order. First, I will discuss topics covered in conceptual papers. Then, I present the antecedents of co-creation. Third, I will present the moderators and mediators of co-creation. And finally, I will talk about the consequences of co-creation.

First, as mentioned earlier in this chapter, pioneering conceptual papers on the topic of customer participation and co-creation emerged from the services literature, but current conceptual papers have expanded to the interaction of the customer in manufacturing settings. Early researchers introduced the customer participation concept in services due to its importance to the company as a way to save cost, increase

productivity, and manage customers as "partial employees" (e.g., Mills and Morris 1986; Bowen 1986; Chase and Tansik 1983; Kelley et al. 1990; Wikstrom 1995; Lovelock and Young 1979). Also, researchers proposed taxonomies of the level of consumer participation in services (Bitner et al. 1997; Kellogg, Youngdahl and Kellogg 1997). More recently, conceptual papers in the literature (e.g., Boyle 2007; Etgar 2007; Lusch et al. 2007, 2006; Piller 2005; Sharma and LaPlaca 2005; Sharma and Sheth 2004; Prahalad and Ramaswamy 2004; Wind and Rangaswamy 2001) mainly focus on the boundaries and applications of the construct in the manufacturing and marketing fields. Most researchers agree that the key aspect for co-creation and related topics such as customization, personalization, or co-creation of value is the interaction between the customer and the company. Customer interactions with business to create a commercial outcome are the main focus of their discussion. Furthermore, discussions in the conceptual papers suggest that such interactions are now more feasible in the manufacturing context too.

Second, some research investigates antecedents of customer co-creation from the consumer perspective. These antecedents have been primarily discussed from the services standpoint. Investigators have proposed antecedents for customer participation in consumer communities (Bagozzi and Dalhokia 2006), self-service technology trial (Meuter et al. 2005), self-service recovery (Dong, Evans, and Zou 2007), and service encounters (Dellande et al. 2004; Kelley et al. 1992; Bowen 1986). For a summary of antecedents see Table 2.

TABLE 2
ANTECEDENTS OF CUSTOMER PARTICIPATION

Author	Context	Antecedents
Bagozzi and Dholakia 2007	Virtual Communities	Desire, Social Norms, Social Identity
Dong et al. 2007	Self Service Recovery (reuse)	Customer ability, perceived value, satisfaction.
Meuter et al. 2005	Self Service Technologies	Innovation characteristics, Individual differences, Consumer readiness (role clarity, motivation, and ability)
Dellande et al. 2004	Patient – Doctor	Role ability, expertise, motivation.
Kelley et al. 1992	Services	Motivation, organizational socialization
Bowen 1986	Services	Role clarity, ability, and motivation

There have been some moderating variables to explain variation between the customer participation and its outcomes; mainly satisfaction. Simonson (2005) proposes the fit between the customized products and the customer's needs and wants to be a moderator for satisfaction. Dallaert and Stremersch (2005) propose that customization process complexity is negatively related to product evaluations. Also they propose that complexity is different for customers depending on their level of expertise. Also, personality traits are proposed to moderate customer participation (Solomon 1986; Xu 2007). Franke and Shreier (2008) propose that consumers that are given the opportunity of creating something unique are more satisfied. Finally, Bendapudi and Leone (2003) propose that the co-creation → satisfaction relationship is moderated by the customer's acceptance of responsibility in the outcome of the transaction.

Some researchers have included mediators in their models attempting to explain how consumers engage in co-creation activities. For example, consumer readiness,

which is composed of role clarity, motivation, and ability, mediates the effect of both, innovation's characteristic and individual differences (personality), on consumer trial in self service technologies (Meuter et al. 2005). For Dellande et al. (2004), goal attainment partially mediates the relationship between customer compliance with doctor's instructions and satisfaction. For Dong et al. (2007), consumer readiness after trial is also a mediator between trial and future trial.

The consequences of customer participation have been documented following two perspectives: from the company's and from the customer's. From the company's perspective the investigation focuses on the impact of customer participation in cost reduction potential for the firm and the impact of such participation on service quality. For example, some authors (i.e., Lovelock and Young 1979; Mills, Chase, Margulies 1983; Mills and Morris 1986; Bowen 1986) focus on the increment of productivity and reduction of cost that the firm would attain by substituting customer participation for employee labor. Taking the perspective of the customer as a "partial employee," Kelley et al. (1992), and Chase and Tansik (1983), explore the consequences for the organizational climate of having customers as employees.

From the consumer's perspective, customer participation is related to satisfaction. Dellande et al. (2004) shows that when a patient of health services effectively does his part in following the doctor's recommendations (higher patient compliance), the patient experiences higher satisfaction with the service regardless of the outcome. Bendapudi and Leone (2003) argue that given the same outcome, customer satisfaction with a firm changes depending on customer participation in the production. More specifically, customers tend to take credit for good results when they participate in the production.

Lengnick-Hall, Claycomb, and Inks (2000) point out that the level of satisfaction in a service increases as customer participation in the service increases. Also, Meuter, Ostrom, Roundtree, and Bitner (2000) explore the sources of satisfaction and dissatisfaction during customer participation in self service technologies.

There are other frequently mentioned consequences. Perceived quality differs according to the level of customer participation in the service (Kelley et al. 1992; Lengnick-Hall et al. 2000). Intentions to re-participate in co-creation depend on the previous experience that the customer had with his participation (Dong et al. 2007). Commitment and loyalty are suggested to increase as customers are encouraged to participate in small community groups such as Harley Davison (Bagozzi and Dohlakia 2006). Simonson (2005) also proposes that customer participation in choosing personalized options could create loyalty when the customer has firmly determined preferences. Another consequence is product evaluation. Dellaert and Stremersch (2005) show that complexity in the participation process is negatively related to product evaluations. Finally, customer participation is related to customer involvement in new products (Sawhney, Verona, and Prandelli 2005).

In sum, I have exposed the main findings in the co-creation literature which some may also relate to co-production. Customer participation is an interesting topic that has evolved from the services context into the branding and manufacturing contexts. The core concept in customer co-creation of goods and services is the interaction between customers and companies. Empirical research is scarce and the nomological network of the construct is relatively limited. Further research on the relationship between co-creation and other concepts must be pursued in order to build a conceptual network that

allows more understanding, explanation, and prediction that benefits marketing academics, customers, managers, and society.

Emotional Attachment

Researchers acknowledge the importance of the study of attachment because of its relation to desirable marketing consequences. It has been shown that attachment is related to trust, commitment, and satisfaction (Rempel, Ross, and Holmes 2001; Spake, Beatty, Brockman, and Neal 2003; Thomson 2006; Thomson, MacInnis, and Park 2005), consumer defections (Liljander and Strandvik 1995), consumer's forgiveness (Ahluwalia, Unnava, and Burnkrant 2001), disposal choice (Walker 2006), brand loyalty and willingness to pay (Thomson et al. 2005). Also, attachment has been proposed as a mediator (e.g., Novemsky and Kahneman 2005) of the effects of intentions on loss aversion, or a moderator for loss aversion (e.g., Arielyet al. 2005).

Attachment theory emerged from observing babies and toddlers in the presence or absence of their caregiver (see Bowlby 1969). Thus, the foundations of the theory are in the domain of mother-baby relationships. Since the first study on attachment, the literature has extended to other domains such as attachment to owned objects (e.g., Kleine and Kernan 1991; Kleine and Baker 2004; Richins 1994a; Kleine, Kleine, and Allen 1995; Belk 1992; Wallendorf and Arnould 1988), brands (e.g., Thomson et al. 2005), places (e.g., Eisenhauer, Krannich, and Blahna 2000), human relationships (e.g., Hazan and Shaver 1987, 1994; Baldwin, Keelan, Fehr, Ehns, and Koh-Rangarajoo 1996), and attachment prior to possession called "option attachment" (e.g., Carmon, Wertenbroch, and Zeelenberg 2003; Ariely and Simonson 2003). For a chronological review see Table 3. In this review, I will focus on the context of the emotional

attachment to objects. Thus, I review the definition of the concept in the domain of material possessions. Finally, I present relevant findings in the emotional attachment literature.

Definition

Emotional attachment (EA) has been widely studied in the marketing literature. The construct has also been referred to as "attachment" since attachment is emotional in nature (Bowlby 1979), and it has been defined in several contexts (i.e., attachment to brands). I will explore attachment in the domain of objects. In this section, I define attachment to objects based on current literature, and then I conceptually differentiate the construct with related terms to better define the attachment variable (Mowen and Voss 2008).

Table 4 shows relevant definitions of emotional attachment. Overall, the definitions proposed by these authors converge on the idea that attachment is an emotional bond. Also, these definitions of attachment to objects argue that there are two entities involved: a person and an object. Based on these definitions, I define emotional attachment to objects in accordance to the general definition of emotional attachment by Jiménez and Voss (2007), Park and MacInnis (2006) and Kleine and Baker (2004), and Schultz, Kleine and Kernan (1989). That is, emotional attachment reflects the emotional bond connecting an individual with a specific object. The connection can start before possession of the object and continues in a dynamic status over time. Also, emotional attachment to objects has the property of strength (Kleine and Baker 2004).

TABLE 3
LITERATURE REVIEW OF EMOTIONAL ATTACHMENT

AUTHOR	TYPE	FINDINGS
Jiménez and Voss (2007)	Conceptual	They propose identity, emotional significance, anthropomorphism, responsiveness, and proximity as probable antecedents to EA.
Park, Whan, and McInnis (2006)	Conceptual	They propose that emotional attachment is a boundary for attitudes in Cohen and Reed's integrative attitude model.
Thomson and Johnson (2006)	Empirical	Attachment style (avoidant/anxious) influences commitment, involvement, and satisfaction through perceived reciprocity of the relationship.
Thomson (2006)	Empirical	Attachment style (avoidant/anxious) influences commitment, involvement, and satisfaction through perceived reciprocity of the relationship.
Walker (2006)	Empirical	Consumers dispose of special objects in special ways.
Ariely, Huber, and Wetenbroch (2005)	Empirical	They propose that emotional attachment may be a moderator for loss aversion.
Thomson, MacInnis and Park (2005)	Empirical	They develop a scale for EA to brands and they discriminate EA from satisfaction, involvement, and brand attitudes. EA influences loyalty and willingness to pay a premium.
Novemsky and Kahneman (2005)	Conceptual	They propose emotional attachment as a potential mediator of the effects of intentions on loss aversion.
Ahuvia (2005)	Empirical	Consumers use their loved products to construct a sense of self in an identity conflict.
Kleine and Baker (2004)	Conceptual	Identifies the main literature of material possession attachment, its boundaries, and future research.
Spake et al. (2003)	Empirical	Comfort is related to satisfaction, trust and commitment.

Table 3 (continued)

Ariely and Simonson (2003)	Empirical	A bidder on an online auction may raise the price as he becomes psychologically attached to the product.
Carmon, Wertenbroch, and Zeelenberg (2003)	Empirical	When consumers choose from an array of options, they experience discomfort once they forgo the unchosen options. Consumers get attached to choice options.
Rempel, Ross, and Holmes (2001)	Empirical	Problem solving attributions between close relationships are a function of trust.
Ahluwalia et al. (2001)	Empirical	When consumers are committed to a brand, they minimize the spill over of negative information.
Baldwin et al. (1996)	Empirical	People may have different attachment styles and respond to attachment stimuli differently at different times.
Kleine, Kleine, and Allen (1995)	Empirical	Possessions may elicit different facets of attachment types to narrate different aspects of their identity (what is me, not me, or we).
Richins (1994a)	Empirical	People low in materialism assign a more hedonic symbolism to their possessions. People high in materialism assign more utilitarian concerns.
Richins (1994b)	Empirical	The value of possessions resides in its public or private meaning.
Hazan and Shaver (1987)	Empirical	Romantic love is an attachment process.
Hazan and Shaver (1994)	Conceptual	Attachment theory is useful to explain close relationships.
Kleine, Kleine, and Kernan (1993)	Empirical	There are several identities that form the global self. The more important an identity, the more attracted to its related products.
Belk (1992)	Documental	There are five different types of meanings assigned to possessions. The more meaningful a possession, the more likely that the person will make an effort to keep it.

Table 3 (continued)

Ball and Tasaki (1992)	Empirical	They propose a measure for attachment. They consider that attachment to a possession is a result of an effort of the individual to define his self concept.
Kleine and Kernan (1991)	Empirical	The authors find that the kind and amount of context affects the meaning people assign to ordinary objects.
Wallendorf and Arnould (1988)	Empirical / Qualitative	In a cross-cultural study, the authors find that people assign meaning and attachment to possessions.
Belk (1988)	Conceptual	Possessions are part of the extended self that form an individual's identity.
Bowlby (1969;1979)	Empirical	Develops an attachment theory based on infant-mother relationships.

I chose to use this definition because prior definitions include ambiguous, vague, and limiting terms. For example, Kleine and Baker (2004) define EA as "a multi-faceted property of the relationship between a specific individual or group of individuals and a specific, material object that an individual has psychologically appropriated, decommodified, and singularized through person-object interaction (p.1)." They use words that are hard to operationalize such as decommodified, or singularized. Another example is Park and MacInnis (2006; p. 17) who define EA as "a relationship-based construct that reflects the emotional bond connecting an individual with a consumption entity (e.g., brand, person, place, or object)." The term relationship-based is vague in that it may be understood that attachment should be experienced by both parties in a relationship, in this case, the object.

TABLE 4
RELEVANT DEFINITIONS OF EMOTIONAL ATTACHMENT

Author	Definition
Jiménez and Voss 2007	"Emotional Attachment is a relationship-based construct that reflects the emotional bond connecting an individual with an object (p. 290-291)."
Park and MacInnis 2006	"Emotional attachment is a relationship-based construct that reflects the emotional bond connecting an individual with a consumption entity (e.g., brand, person, place, or object) (p. 17)."
Thomson, MacInnis and Park 2005	From Bowlby 1979, "attachment is an emotion-laden target-specific bond between a person and a specific object (p. 87-88)."
Kleine and Baker 2004	"Material possession attachment is a multi-faceted property of the relationship between a specific individual or group of individuals and a specific, material object that an individual has psychologically appropriated, decommodified, and singularized through person-object interaction (p.1)."
Ball and Tasaki 1992	"Attachment is the extent to which an object which is owned, expected to be owned, or previously owned by an individual, is used by that individual to maintain his or her self-concept (p.158)."
Schultz, Kleine, and Kernan 1989	"Attachment is a multidimensional property of a material object possession which represents the degree of linkage perceived by an individual between him/her self and a particular object. (p.360)."

Another example of a vague definition is by Schultz, Kleine, and Kernan (1989; p.158) who use the word multidimensional in their definition but they do not specify the dimensions and the relationship among them. Finally, some current definitions limit the emotional connection to certain contexts. For example, Ball and Tasaki (1992) define EA as "the extent to which an object which is owned, expected to be owned, or previously owned by an individual, is used by that individual to maintain his or her self-concept." They limit EA to that emotional connection emerging from self-concept

maintenance. Since the current definitions are ambiguous, vague, or limiting, I proposed a revised definition that is simpler and easier to operationalize.

As part of understanding EA and its boundaries, I now discuss how emotional attachment to objects is different from related constructs, and I elaborate on the distinction between EA and related constructs such as general trait materialism, category involvement, attitudes, evaluative affect, brand attachment, and utilitarian attachment. Assessing the distinctions between EA and related constructs contributes to the development of the study of the field by preventing the confounding of terms and definitions (Teas and Palan 1997). Thus, the placement of the construct in a network of related constructs helps develop the nomological network (Cronbach and Meel 1955; Mowen and Voss 2008).

Utilitarian Attachment. In this research I focus on affect-based attachment. There might be other reasons for attachment that are not emotionally driven (Richins 1994a; Belk 1989). It is important to notice that even though some attachments are not emotional in nature, the threat of losing the attachment figure can evoke emotional reactions. For example, if a person owns a gun, and the gun gives him a sense of protection, or control in a given context, a threat of losing the object could cause the individual to react emotionally. However, the focus of the attachment to the gun is functional and context driven rather than emotional. Richins (1994a) proposes a utilitarian dimension of attachment to special possessions. Some of the variables that are proposed to predict utilitarian attachment are the price of the product, the availability of replacements in the market, control, and the effort expended in the purchase.

Brand or Product Attitudes. To establish the difference between emotional attachment and brand or product attitudes, I elaborate on the arguments recently proposed by Park and MacInnis (2006) that attitudes differ from emotional attachment in terms of antecedents, formation processes, and effects. Because EA is an emotional bond connecting an individual with a consumption entity, it leads to psychological and behavioral outcomes not typically associated with brand or product attitudes (Park and MacInnis 2006). Examples include proximity-seeking behaviors, separation distress, a sense that the attachment objects offers a safe haven, and mourning of loss. Given this, the formation of attachment is not likely to depend on factors such as argument strength or source credibility which are widely accepted antecedents of attitude formation (Park and MacInnis 2006).

Accordingly, brand bonds and possession attachment should not be regarded as the same phenomenon. Brands differ from material possessions in their "irreplaceability and their potential to carry indexical value (Kleine and Baker 2004, p. 20)." Also, EA to objects involves an individual's bond with a tangible entity. However, since brands are based on intangible intellectual property, a brand bond may not involve a specific object of affection. Furthermore, a brand can transfer its value or meaning to other domains (e.g., brand extensions or brand alliances), whereas attachment to an object is possession specific. For example, being attached to Toyota might explain loyalty in the sense of a person changing a car every year in the same or different Toyota dealership. However, being attached to a specific car makes that specific possession irreplaceable regardless of brand name since it carries intrinsic value and meaning.

Context. Attachment theory originated from observing the behavior of babies and toddlers in the presence or absence of their caregiver. Thus, the foundations of the theory are in the domain of attachment in human relationships. In the marketing literature, attachment has been assumed to be the same for both; objects and people. However, there are some differences among the two. First, attachment to a person involves a

relationship in which both people express their affection, and respond to affection given to them. In contrast, EA with an object involves a one-way expression of affect, or perhaps even an imagined two-way expression of affect. Second, EA among people is not generally acquired by money (Lennon and McCartney, 1964). In the domain of objects, however, acquisition by money is common; although probably not universal.

Materialism and Social Desirability. There are two constructs that are potentially confounded with attachment: materialism and social desirability. Kleine and Baker (2004), Ball and Tasaki (1992), and Wallendorf and Arnould (1988) all argue that attachment is a different construct than materialism. For example, Ball and Tasaki (1992) suggest that materialism is defined as a psychological trait *unconnected* to any possession in particular. Materialism is associated with the acquisition of things (as in the common adage "he who dies with the most toys wins"). People high in materialism would readily replace an object with a new version as warranted by the circumstances. In contrast, emotional attachment implies that an individual has a special emotional bond with a specific object. Such a person would be loathe to replace the attached object under any circumstance. Then too, as the number of objects acquired increases it should become less likely that an individual becomes attached to any single object. Thus, little relationship should be expected between materialism and emotional attachment to objects.

Second, Ball and Tasaki (1992) argue that attachment should not be related to social desirability. This is because an individual can express the self through an object, even in the absence of visibility to important others. Their empirical evidence supported the contention that social desirability was unrelated to attachment.

Involvement, Satisfaction, and Loyalty. Ambler, Bhattacharya, Edell, Keller, Lemon, and Mittal (2002), Thomson et al. (2005), and Thomson (2006) argue that involvement, satisfaction, and loyalty are orthogonal to EA. Thomson et al. (2005) define involvement in accordance with Park and Mittal (1985) as "a state of mental readiness

that influences the allocation of cognitive resources to a consumption object, decision, or action." EA is not a cognitive resource allocated at will. Satisfaction and EA are distinct because satisfaction may not involve attachment behaviors such as proximity seeking. A customer may be satisfied with a product, but it does not imply that he or she would also be attached to it. Finally, loyalty may the result of a variety of reasons, not only EA. EA is a predictor of loyalty, but not the only one.

Summary. EA reflects the emotional bond connecting an individual with a specific object. It is conceptually distinct from utilitarian attachment, brand attitudes, materialism, social desirability, involvement, satisfaction, and loyalty.

Relevant Findings

In this section, I will present relevant findings that link emotional attachment to co-creation. It is not the intention of this section to scrutinize the evolution of emotional attachment in every context (for a holistic and comprehensive review of emotional attachment to material possessions, please refer to Kleine and Baker 2004). In order to summarize the relevant findings of emotional attachment for this paper, I will separate the findings into two classes. First, I will talk about the antecedents of EA. And second, I elaborate on the consequences of EA.

First, I present relevant antecedents to EA. The antecedents are variables that are conceptualized as predicting EA. Although in the literature EA is often confounded with its antecedents (Jiménez and Voss 2007), there are some variables that are often considered predictors of EA. Such variables include: self-extension, identity, meaning, proximity, and interaction.

Attachment to possessions has been extensively related to an individual's extended self. The extended self is a construct that reflects who the person is through his

or her possessions (Belk 1988). According to this perspective, those possessions that better reflect who the person is become more meaningful and thus the person connects to them. Identity is also closely related to self extension. However, this literature concentrates on the role of possessions in defining the person's individual and group identity (e.g., Kleine, Kleine, and Kernan 1993).

There are authors who consider that EA to possessions is related to the object's meaning. Richins (1994b) views possession's value as deriving from meaning. She proposes two types of meaning: private and public. Private are those meanings assigned to the possessions by the individual himself, whereas public meanings are assigned by outsiders. So, more meaningful objects are likely to be more cherished, valuable, and less subject to exchange. The extended self, identity, and object meaning antecedents are the most frequently discussed antecedents in the material possession attachment literature (e.g., Kleine and Kernan 1991; Kleine and Baker 2004; Richins 1994b; Kleine, Kleine, and Allen 1995; Belk 1992; Wallendorf and Arnould 1988; Ahuvia 2005).

The final perspective suggests that proximity and interaction with an object may predict emotional attachment. For example, proximity has been proposed as an antecedent to attachment (e.g., Bowlby 1979; Hazan and Shaver 1994; Jiménez and Voss 2007). Proximity increases the likelihood of interaction with the object. Research studies (e.g., Carmon et al. 2003) argue that proximity, even before the possession of the object, increases the attachment to it. In what they call option attachment, the authors propose that there is a sense of prefactual ownership of the choice options. Ariely and Simonson (2003) also found evidence of this phenomenon in the auction context. They found that the higher bidders thought more concretely about possessing the object and

therefore created a partial attachment to the object through a mental interaction with the object.

In sum, the previous perspectives agree on the point that the possession should be part of the individual's association with the self in one way or another. In this dissertation, I refer to meness as an antecedent to emotional attachment that involves the establishment of associations between the self and an object (Gawronski, Bodenhausen, and Becker 2007).

Emotional attachment has been included in models where it correlates to several marketing consequences. For example, it has been argued that EA is related to trust, commitment, and satisfaction (Rempel et al. 2001; Spake et al. 2003; Thomson 2006; Thomson et al. 2005); consumer defections (Liljander and Strandvik 1995); consumer's forgiveness (Ahluwalia et al. 2001); disposal choice (Walker 2006); brand loyalty; and willingness to pay (Thomson et al. 2005). As the reader may recall, some of the suggested consequences of emotional attachment are also suggested consequences of co-creation, such as: satisfaction, commitment, and loyalty. I return to this interesting point in the research gap section.

Also, it is important to mention that the aforementioned consequences are related to positive or favorable implications (e.g., satisfaction, loyalty, commitment). It is evident that emotional attachment to brands, companies, or even products may be good for a business. However, little investigation has been done regarding the possession times and types for objects to which an individual feels emotionally attached. Since emotional attachment to material possessions is object specific, there might be some implications for repurchase cycles, life time value of a customer, or related variables that

have to do with the timing of repurchase. For now, the purpose is to bring to the reader's attention to the fact that this important matter has been overlooked in prior research. I will come back to this issue in the research gap section.

In sum, in this section I presented relevant literature on emotional attachment in the context of material possessions. I defined emotional attachment, and outlined the suggested antecedents and consequences of EA in the marketing literature. Also, I point out that the investigated outcomes of emotional attachment are varied. Attempting to sort out the relationship of these two focal constructs to all the possible variables in the nomological network is desirable, but not possible. That task cannot be done in a single dissertation. The proposed dependent variable to be explored in this dissertation is the willingness to dispose of an object. In the next section, I further explain this variable.

Product Disposition and Willingness to Dispose

It has been argued that there has been insufficient research on product disposition in the marketing literature (e.g., Jacoby 1978; Wells 1993, Okada 2001; Walker 2006). What customers do with their products after purchase, including how they dispose, let go, or dispossess their goods is not a common research issue in the marketing literature. After an extensive search of the literature, I unearthed just over a dozen articles on the subject which was first discussed in 1977.

More research in this domain is needed because knowing what consumers do with their products after purchase, and how and when they dispose of them is important for academics and marketing managers. For academics, it is interesting to know the psychology and the economics of behaviors that occur with respect to post-purchase consumption and disposal. The investigation of consumption and consumer behavior

would be incomplete without understanding, explaining, and predicting how consumers close the consumption cycle. Thus, it is of scholarly importance to understand the whole consumption experience.

For marketing managers, especially of durable products, it is important to know what consumers do with their products after purchase to manage their marketing efforts. For example, customer service after purchase is a common practice, products need maintenance, repair, storage, and sometimes help to be disposed (i.e., trade-in cars) of (Okada 2001; Walker 2006). Also, knowing how long customers take to let go of their current products may be a useful indicator of planning for time of repurchase, product replacement, new product adoption, credit loan timings, and warranty timing offerings, etc (e.g., Cripps and Meyer 1994) . Thus, it is also important for managers to know how, why, and when customers dispossess their current goods.

In this section, I begin by defining product disposition. Then, I discuss the literature in the marketing domain about product disposition. Next, I explain why I focus on willingness to dispose.

Definition of Product Disposition

There have been several definitions of product disposition. I will discuss some of them, and then I will present the definition used in this dissertation. The initial definition of product disposition was introduced in 1977 in the marketing literature by Jacoby, Berning, and Dietvorst. They viewed product disposition as "getting rid of" a product. Based on that definition, they classified different methods of getting rid of stuff. Hanson (1980) views product disposition as the process of deciding what to do with an object after purchase. More specifically, he points out that product disposition is a consumer

decision process that involves problem recognition, search evaluation, disposition decision, and post-disposition outcomes. Young and Wallendorf (1989) define disposition as "the process of detachment from the self (p. 33)." For Roster (2001), disposition is a "process of detaching from and ultimately severing the relationship between the possessor and the possession (p.425)". More recently disposition has been defined as "a process through which consumers intentionally or unintentionally move the ownership of a piece of goods to another person or entity" (Hibbert, Horne, and Tagg 2005 p. 820). Finally, Walker (2006) defines product disposal as "relinquishing immediate use of the good." Although the definitions vary in several aspects, there are also some commonalities.

The definitions coincide in several aspects. First, disposition is a process. The process of disposition may begin with an intention to dispossess, in the case of willingly disposing an object, or by being notified of the object loss as in the case of loss due to natural disasters. Also the process does not end in the physical separation from the object. Second, disposition usually implies the act of dispossessing an object. That is, losing, giving up, or relinquishing ownership. And third, some definitions suggest that disposition has to do with detaching the object from the self. That is, identity and meaning play a role in the decisions regarding how and when to get rid of special objects.

In this dissertation, I define product disposition as the intentional dispossession of the object. Dispossession refers to the individual giving up the rights and obligations that the ownership of the object entails. In short, the individual does not possess the object anymore. I chose this definition based on the following criteria: 1) I based the decision on the objectives of this investigation. One goal of this dissertation is to find out the

impact of antecedents (co-production and emotional attachment) on the premeditated decision of dispossessing an object. 2) I focus on the predetermined disposal of an object because it is a prevalent case in a consumer's consumption cycle. 3) It is not the aim of the dissertation to consider disposition due to natural disasters, stealing, or random loss. 4) I focus on the intentional disposition because in intentional disposition the customer remains in control over the decision of getting rid of his or her objects. Thus, the objective is to understand how our focal antecedents impact the intentional decision to delay disposition.

Findings

Most of the studies in the product disposal literature have been either conceptual or interpretative; few empirical studies have been conducted in this research stream (Walker 2006). The conceptual pieces focus on classifying the disposition types and conceptualizing and limiting the concept (Jacoby et al. 1977; Harrel and McConocha 1992; Young and Wallendorf 1989), or suggesting a conceptual framework (i.e., a theory) for the study of disposition (e.g., Hanson 1980; Pieters 1993).

The interpretative papers have provided interesting insight into the subject. Price, Arnould and Curasi (2000) propose that priceless, special, or cherished possessions are transferred in special ways and involve rituals. They study the phenomenon using a sample of elderly people who have kept meaningful objects for a long time. After analyzing their conversations with the individuals in the sample, they provide heuristics of what, how, and when senior people give up their valuable and meaningful possessions. One of the main findings is that old people would give up the special object when the time and circumstance allow the cherished object to keep (transfer) its meaning. In a

related study, Curasi, Price, and Arnould (2004) investigated the behavior of family members in relation to keeping goods that are usually not for sale, and goods that should be kept through generations. They found that individuals accept certain responsibility and burden in order to preserve the physical objects (e.g., monetary investment), and the meaning of such items (i.e., telling stories about it). Lastovicka and Fernandez (2005) interpret the narratives of consumers trying to get rid of meaningful possessions. They found that customers get rid of stuff when the objects do not reflect who they are anymore. That is, consumers dispose objects in order to redefine their identity and forget bad experiences (e.g., getting rid of a wedding dress after a divorce). Lastly, interpretative research has also looked for moderators on the disposal preference. Hibbert, Horne, and Tagg (2005) found that disposal channel preference depends on the type of good, and Coutler and Figas (2003) report that there are two extreme cases of consumers: packrats and purgers. Packrats are those consumers who have psychological difficulty disposing of things. Purgers, on the other hand, are willing to dispose of items.

There have been few empirical studies on product disposal. Burke, Conn and Lutz (1978) ran a factor analysis attempting to investigate the relationship between lifestyle and demographics, and disposal methods. They found that lifestyle factors are moderately useful predictors while demographic factors alone are not predictive of the type of disposal behavior. Okada (2001) did experiments to investigate how customers make decisions regarding replacement of a good. She found that replacement intentions are a function of the mental book value of the object. Finally, Walker (2006), in her doctoral dissertation, did experiments to show that special goods are, preferably, disposed in special ways. Owners of special goods tend to choose disposal methods that allow

them to control where the object is going to end up. This allows them to make sure that the meaning of the object is not destroyed upon ownership transfer.

Willingness to Dispose

Willingness to dispose is defined as the extent of intention dispossess of an object. There are diverse topics of academic and managerial interest on the intentions to dispossess an object. As I previously outlined, some of the topics have already been addressed in previous research. The main topics respond to 'the how' and 'the who' of product disposal. Examples of 'the how' include authors that have classified product disposal methods (e.g., Jacoby et al. 1977; Burke et al. 1978; Harrell and McConocha 1992; Price, Arnould, and Curasi 2000; Curasi et al. 2004; Walker 2006). Researchers answering questions of 'who disposes' focus on classifying consumers according to disposal preferences (e.g., Burke et al. 1978; Coutler and Figas 2003).

Little empirical research has been done that investigates why people decide to dispose and when people decide to dispose (e.g., Okada 2001). In this dissertation, I focus on testing co-production as an antecedent to willingness to dispose. So, intentions to dispose in the immediate future may be less for items that were co-created. There are two reasons why I chose this dependent variable in my model.

The first reason for choosing willingness to dispose is that there is some evidence that emotional attachment is linked to keeping products longer. Also, I previously argued that co-production may be related to EA. So, it is also possible that the co-production activity may lead to lower willingness to dispose.

Second, I believe this research contributes to both academics and managers. The research in the area of product disposal in consumer behavior has been scant. The

investigation of the impact of co-production and emotional attachment on the intentions to dispose could extend the understanding of their nomological relationships, thus contributing to theory. For managers, understanding the link between co-production, EA, and intentions to delay product disposition is of interest because co-production of material products, i.e., objects, is becoming a common practice in the marketplace. Thus, understanding how co-production of objects produces EA which negatively impacts the customer's willingness to dispose of an object is of utmost importance. In the next section I review literature relevant to the role of task focus, creativity and autonomy on the formation of EA.

Task Focus

Previous research on consumer behavior shows that customer's evaluations of products may vary according to their focus of attention. For example, Tversky (1977) argued that when comparing two brands, one brand is typically the focus of attention or referent, and the other is the less focal referent comparison. Dhar and Simonson (1992) further suggest that it is the focal brand which elicits more thoughts. Kardes and Sanbonmatsu (1993) also suggest that the focus of attention in comparing two brands is usually determined by the amount of information available, that is, the brand for which there is more information is usually used as the referent when compared to another brand for which the individual possess less information.

In the context of object meaning, Kleine and Kernan (1991) provide further support for the impact of the environment in product meaning formation. Kleine and Kernan discussed how the context and the environment count towards assigning meaning

to a specific object. That is, the meaning of an object depends on the contextual factors that surround it.

The relevance of these studies for the present research is the fact that the customer's focus may determine the meaning the customer derives from participating in co-production. I argue that when customers focus on the object, emotional attachment may be more likely to occur. Conversely, I propose that when the individuals focus on the task, then the individual may be less emotionally attached to the object. I now discuss how autonomy and creativity may be two key factors in making the customer focus on the task rather than on the object.

Autonomy

Autonomy refers to the freedom to choose, act, or perform a task. Published research has shown that it influences several outcomes such as satisfaction and motivation. In psychology, autonomy has been widely studied as a factor influencing intrinsic motivation (Fisher 1978) and attribution (Knee and Zuckerman 1996; Ryan and Deci 2000; Deci and Ryan 1985). Individuals that make their own choices are more motivated to complete them. Also, when an individual acts freely that individual tends to be more responsible for the consequences of such actions compared to actions that were not freely chosen.

In marketing, autonomy has been studied in a wide range of contexts. For example, in sales literature, it has been found that autonomy of a salesperson is related to learning, job efficacy, job satisfaction, and performance (e.g., Bandura 1986; Wang and Netemeyer 2002). Consistent with the psychological view that autonomy leads to a higher level of intrinsic motivation, these studies in the sales literature found a higher

level of satisfaction and performance in the task. Autonomy is also found to be related to organizational commitment. Hunt et al. (1985) show that when an individual is given autonomy in his choices and tasks, then that individual may tend to be more committed to the organization. It has also been shown that autonomy of business units lead to a higher satisfaction in channel relationships (Geyskens et al. 1999). When a partner perceives freedom of choice in a relationship, the level of satisfaction with that partnership increases.

Marketing researchers have also investigated the role of autonomy for consumers in various consumption contexts. For example, Simonson and Nowlis (2000) argue that autonomy in choice is related on how people rationalize and justify such choices. They found some people restrict their autonomy due to social pressure. When the social opinions about a given choice cannot be assessed, then the individual exercises his need for uniqueness. Wathieu, Brenner, Carmon, Chattopadhyay, Drolet et al. (2002) refer to consumer autonomy with a concept called consumer empowerment. They argue that such consumer autonomy or empowerment may not be always beneficial, especially when consumers are overloaded with choice.

There are only a few published articles that examine autonomy in consumer co-creation. Ousccan, Sweeney, and Johnson (2000) argue that doctors should balance control and autonomy to their patients in order to increase patient satisfaction. Bendapudi and Leone (2003) proposed consumer autonomy as a way to reduce the self serving-bias involved in consumer participation under choice conditions. More specifically, they found that people that participate in co-production often attribute good

results to themselves and bad results to the company. By increasing autonomy Leone and Bendapudi found that attributions to the company for bad outcomes were mitigated.

More recently Dahl and Moreau (2007) showed that the balance between autonomy and competence lead to task enjoyment. Task enjoyment is defined as the extent to which an individual enjoys performing the task. In a co-production activity of making cookies, they manipulated the level of individual's autonomy in performing the task. They manipulated the low autonomy by providing a picture of a finished cookie and telling the participants to make a cookie attempting to match the picture. In the high autonomy scenario, they did not show a finished cookie allowing the participants to do the cookie design they wanted. They found that individual's enjoyment of the task under these two conditions depended on the level of competence that they felt during the task. That is, the level of autonomy positively influenced the level of task enjoyment only when the level of competence matched. The matching conditions were high autonomy with low instructions, and low autonomy with high level of instructions.

Thus, autonomy is clearly related to co-creation activities. Despite this evident relationship, only three studies were identified that have focused on autonomy in co-creation or co-production activities. The published findings, however, suggest that autonomy in co-production can produce some positive outcomes for the firm. One specific findings of interest to the current investigation is that of Dahl and Moreau (2007). If autonomy increases the customer's enjoyment of the task, then it may make the task more salient to the customer relative to the co-produced product.

Creativity

Another understudied construct in the context of co-creation is creativity. In psychology, creativity has been defined as "the generation of ideas, insights, or problem solving solutions that are new and meant to be useful" (De Dreu et al. 2008). Human beings use creativity in order to survive because creativity allows for problem solving (Guilford 1967; Torrance 1966).

In marketing and management, the role of creativity on desirable managerial outcomes has been investigated. For example, creativity has been shown to be related to innovation (Amabile 1988), new product development and competitive advantage (Im and Workman 2004), marketing programs (Andrews and Smith 1996), and organizational learning (Moorman and Miner 1997). In consumer behavior, creativity has been related to how consumers solve consumption problems (Hirschman 1980), and how consumers choose conventional or unconventional products (Burroughs and Mick 2004).

In the context of consumer participation in services, creativity has been related to customer satisfaction. Jia and Wang (2007) propose that when a consumer provides more ideas with respect to a service, for example a haircut, then the consumer is likely to be more satisfied with the service outcome. In the domain of co-creation of goods creativity is acknowledged as an important component of the process. Etgar (2007) argues that creativity is an important part of a co-production process because creative tasks may generate personal satisfaction. However, despite this link, few studies have focused on the impact of creativity in co-production tasks. This is regrettable because creative tasks should be more enjoyable than non-creative tasks and, thus, lead the customer to focus more on the task relative to the co-produced product.

In sum, individuals may focus in different attributes in a purchasing experience. In a co-production context, some may focus on the object and some may focus on the task. Autonomy and creativity in co-production may lead to a higher focus on the task since they are related to task enjoyment. Regrettably, these relationships have not been explored. Next, I summarize the research gaps resulting from this literature review.

Research Gap

The gaps that I attempt to address in this dissertation are twofold. First, after reviewing the relevant literature on co-production and emotional attachment, I see that there are several variables (i.e., antecedents and consequences) that seem to be related to both constructs. So, there is evidence to suggest that both variables may be related to each other. However, there has not been any empirical research linking these two constructs. Second, I explore the role of emotional attachment under two conditions, 1) when the focus is the object, and 2) when the focus is the task. In the next two subsections, I present an explanation of each of the two gaps. I also state why this research is both interesting and useful for both marketing theorists and marketing managers.

Gap 1: The Relationship between Emotional Attachment and Co-production

I propose that there is a gap in the nomological network that includes co-production and emotional attachment. A nomological network is "the set of factor-to-factor relationships derived from the relevant theory and stated at an abstract, theoretical level (Judd, Kidder, and Smith 1986, p. 46; Cronbach and Meehl 1956)." It can also be thought of a network of expected relationships (Nunnally and Bernstein 1994; Voss,

Spangenberg, and Grohmann 2003). A common task of researchers is to fill the gaps in the nomological network of conceptual frameworks. It is through the understanding of such a network that investigators can infer causal relationships between antecedents and consequences, account for variance explained, and better explain the world (Voss and Mowen 2008). The understanding of how the variables are interrelated helps in understanding, explaining and predicting phenomenon, which by the way, is the objective of theory (Bagozzi 1994). Thus, finding new variables or new relationships between variables in a nomological network is a contribution to theory.

Co-production and emotional attachment seem to be part of the same nomological network because they have common antecedents and consequences. Common antecedents are: prefactual interaction with the object and meness. First, both co-production and EA have been shown to be related to customer's involvement before consumption. Co-production involves the hands-on consumer interaction with the company in producing a good. Also, co-production means that the customer is engaged in the production process at some level of the value chain. This involvement in the creation of the product before it is ready to be used allows the customer to have a mental (e.g., designing) and/or physical (e.g., assembling) interaction with the product before consumption. This sense of anticipated consumption may also be related to emotional attachment. Emotional attachment has been suggested to be anteceded by both prefactual interaction (option attachment) and proximity. Since, making an object may involve several steps over a period of time, and the co-producer may have to be engaged and proximal to the object, the act of co-production may elicit attachment.

The second common antecedent is the degree of meness. One reason why customers get involved in co-production is to better match their idiosyncratic needs and wants with the product being made. Co-production involves the customer being able to participate in making his own good. Meness is also relevant in the emotional attachment literature. Emotional attachment has been shown to be more likely to occur towards objects that reflect the customer's identity. That is, when associations develop between objects and the person the object becomes more valuable to the person. So, the degree of meness, or level of association of the object with the self, in the object is related to both co-production and emotional attachment.

Co-production and emotional attachment also share common consequences such as: satisfaction and commitment. As exposed in the literature review, customer satisfaction is a common dependent variable of customer participation in the creation of a good or service (e.g., Dellande et al. 2004; Bendapudi and Leone 2003; Lengnick-Hall et al. 2000; Meuter et al. 2000). Additionally, I argue in the conceptual review of emotional attachment that while distinct constructs, there is a link between EA → satisfaction. Another variable that appears in both literatures is commitment (e.g., Bagozzi and Dholakia 2006; Rempel et al. 2001; Spake et al. 2003; Thomson 2006; Thomson et al. 2005). Commitment refers to the "degree to which an individual views the relationship from a long-term perspective and has a willingness to stay with the relationship even if things are difficult" (Thomson et al. 2005). EA is proposed to lead to commitment (e.g., Thomson et al. 2005), and customer participation is also thought to lead to commitment (e.g., Dellande et al. 2004; Bagozzi and Dholakia 2006),

In conclusion, there is a missing link between co-production and emotional attachment as evidenced in their common relationships with antecedents (i.e., interaction and meness), and consequences (i.e., satisfaction and commitment). These common relationships may suggest that there is a possible relationship between co-production and emotional attachment. With this understanding of these relationships and boundaries, I construct a more inclusive nomological network.

Situating emotional attachment and co-production is interesting and important for both marketing academics and marketing practitioners. For marketing academics my research is relevant because it adds to the understanding of the nomological network involving both constructs and the relationship among them. Few studies have explored the psychological implications of co-production (e.g., Dellande et al. 2004; Bendapudi and Leone 2003). More importantly, the relationship between emotional attachment (EA) and co-production has not yet been explored.

From a managerial perspective, the study of the relationship between EA and co-creation is also important. Emotional attachment and co-production have been shown to possess similar desirable outcomes for businesses, for example satisfaction and commitment. Marketing managers usually tailor their efforts in order to influence such outcomes. Understanding the relationship and boundaries between the two variables may guide managers to make better decisions in the marketing mix, and the interaction opportunities that they provide to their customers.

In summary, there is a gap in the nomological network involving both: co-production and emotional attachment. There is evidence that they have common antecedents and consequences, but the relationship among the two variables is not

known. Filling this gap in the literature is relevant to both, marketing academics, and marketing managers.

Gap 2: The Role of Emotional Attachment under Two Customer Focus Conditions

Previous research on consumer behavior shows that customer's evaluations of products may vary according to their focus of attention (e.g., Tversky 1977; Dhar and Simonson 1992; Kardes and Sanbonmatsu 1993). Drawing from the literature review, emotional attachment is likely to be linked to co-production especially when the focus of the attention in the activity is the object. However, literature also shows that sometimes individuals engage in co-production activities in order to enjoy the performing of the task. Thus, the question is, is the role of emotional attachment the same under these two different conditions? As far as this author is concerned, this question has not been tackled in the marketing literature and this is one of the gaps that I attempt to fill.

Filling this gap is also relevant to academics and marketing practitioners. For academics the study of the boundary conditions of formation of object attachment increments the understanding of the emotional attachment phenomenon. For managers, understanding when emotional attachment is formed and its impact in willingness to dispose is beneficial so they can tailor their marketing strategy accordingly.

In sum, the negative marketing consequences of emotional attachment and co-creation have not been adequately explored. In addition, the formation of emotional bonds in a co-production activity when there are distinct activity focuses is also not known. It is one objective of this dissertation to begin to fill these gaps.

In the next chapter, I describe the research context, then, based on the theoretical foundations outlined in this chapter, I conceptualize a framework that helps explain how

the previously mentioned variables interrelate in a nomological and meaningful network. I emphasize not only the directionality and types of relationships among the variables, but also on the theoretical underpinnings that suggest them. Lastly, I formulate testable hypotheses.

CHAPTER III

HYPOTHESES

As I point out in the literature review section, co-creation is a common term used in the marketing literature to refer to customer participation. Customer co-creation is an umbrella term that refers to a number of different participative interactions, which may vary in extent, between customers and companies at various levels of the value chain. In this dissertation as noted earlier, my focus is the context when the customer has a hands-on interaction in making an object. This type of customer co-creation is called customer co-production and this is the research context of this study.

I begin this chapter with a complete description of the research context. Then, I divide the research questions in two studies that are presented separately. Study 1 investigates the role of emotional attachment when the object is the focus of the activity. The model in study one proposes that co-production leads to a lower willingness to dispose of the object and that this relationship is mediated by the emotional attachment generated by the co-production activity. In addition, the model suggests that this effect is stronger at higher levels of meness, that is, when the individual associates the object with the self. Study 2 proposes a model in which task enjoyment is higher when the co-production task is performed under conditions of higher autonomy and creativity. Also, the model proposes task enjoyment mitigates the effect of EA on WTD.

This chapter is organized in 3 sections. In the first section I discuss the context and the phenomenon that the model attempts to represent. This section describes the kind of phenomenon that I am investigating. In the second section I introduce the proposed model for study one and I provide support for the proposed relationships in the model. In the third section, I present the model for study two and I discuss the theoretical underpinnings sustaining the proposed associations. Testable hypotheses are developed in each study section.

The Research Context

There is an increasing trend of customer participation at different levels of the value chain (e.g., Lusch et al. 2007; Etgar 2007; Piller 2005). Customers participate in several activities before the creation and consumption of a product ranging from design to production. Customer co-creation is an umbrella term that refers to a number of different participative interactions, which may vary in extent between customers and companies at various levels of the value chain. I focus on the customer's hands-on participative interaction in producing an object (i.e., co-production).

Customer Co-production

As I previously stated in Chapter II, I focus this dissertation on the customer participation on the realm of manufactured goods rather than services. In the context of goods, there are situations when the consumer may provide input in the fabrication, ideation, design, or finishing of a product before or after the purchase. In this dissertation, I center my attention on customer co-production which occurs when a customer has hands-on participation in the fabrication of an object (see Figure 4). I

specifically focus on the category of durable goods, so that the co-production of consumable items is not considered.

Figure 4 is a flowchart that describes the different types of customer participation in the manufacturing process of a good. The starting point is the question “Is customer input needed prior to the purchase?” Customer input means any kind of physical or mental contribution provided by a customer in the manufacturing process.

FIGURE 4

CUSTOMER INPUT FLOWCHART

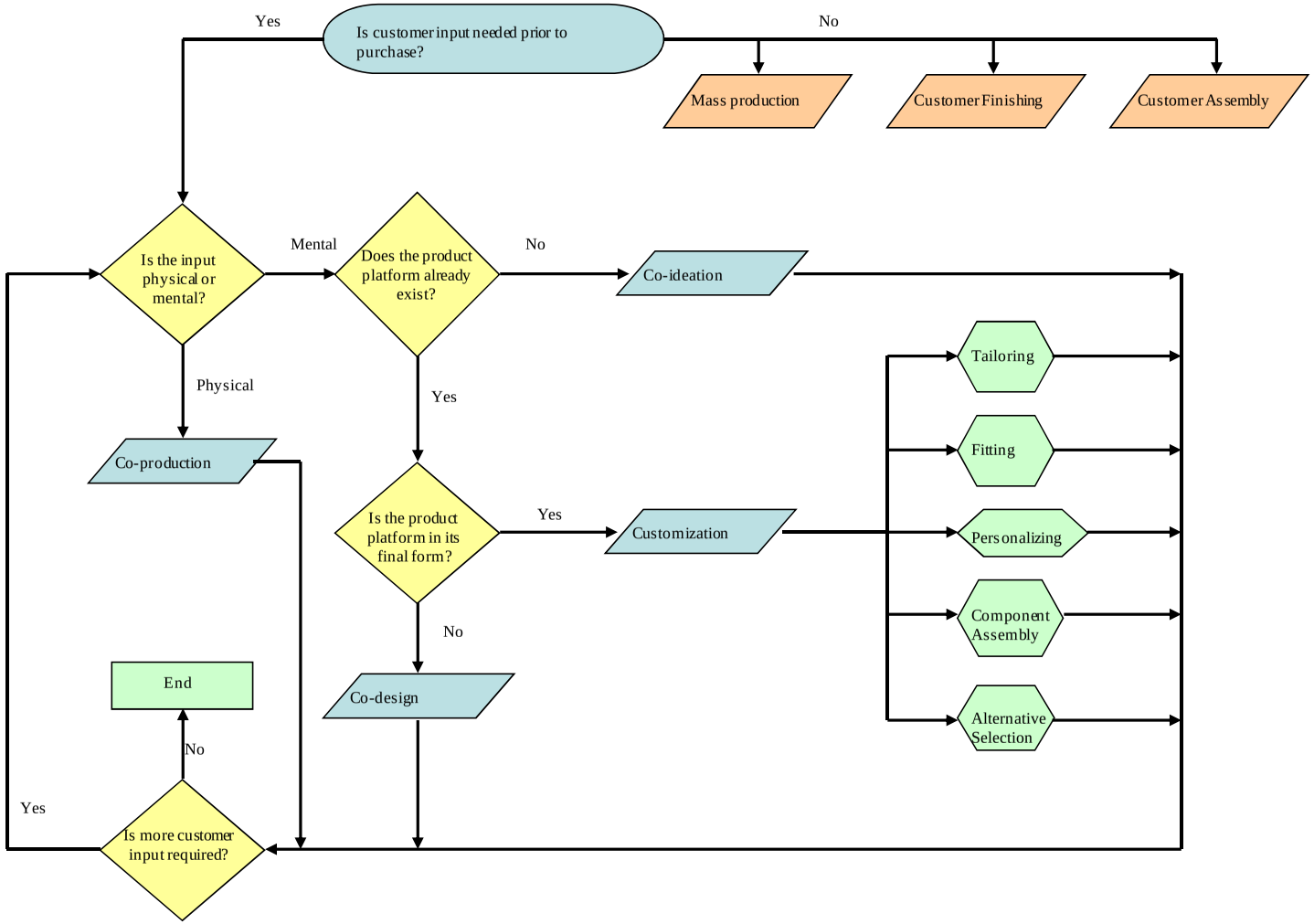


Figure 4 shows that when the customer input is not required prior to the purchase, there are at least three possible scenarios. First, the company may engage in mass production. Mass production refers to the company's unilateral fabrication of goods. The goods that are made in this manner are often sold off-the-shelf, for example buying a set of cutlery. Second, the customer's input may be required after the purchase to assemble a standardized good, for example an office chair. And third, a customer may also provide input with respect to finishing the product such as buying a set of unfinished furniture to carve or paint. There might be different types of post-purchase situations that require different types of customer participation. However, this post-purchase customer participation in putting a product together is not considered co-production because there is no co-participation between the company and the customer. That is, the customer can finish the process by himself. I provide examples as illustration of the phenomenon, but the focus of this work is the input that customers may provide before the purchase

Figure 4 shows that when the customer's input is needed prior to purchase; the types of input differ based on whether the needed input is physical, mental, or both. Later in this section I explain how the combination of the two may be possible in what I refer to as a participation loop. For now, if the input is physical, then there is a co-production between the company and the customer. Physical input requires that the customer have hands-on interaction with the product before it is made, for example when a customer puts together a teddy bear at a Build-A-Bear store.

If the initial input is mental in nature, that is, it does not require the customer to manipulate the good with his own hands, the type of input is going to depend on whether the company has an existing platform to guide the customer in their effort. If the

company does not have pre-existing limiting conditions for a customer to create a good, the customer may be free to come up with a new product never offered by the company before, for example when a steel fabricator receives an order from a client to produce a piece or a mold that has never been done before.

When the company has a platform that guides the customer's mental input in the manufacturing process, the next question becomes if the input is required for a product platform in its initial or final form. If the product platform is in its initial form, then the customer input is called co-design. Co-design refers to the customer input that is guided by the company in the initial stages of a good, for example Nike's website (IDNike) in which the company provides a product template within which their customers can co-design tennis shoes.

If the product platform is in its final form, then the customer input is classified as customization. Customization may have several branches according to the level and type of customer input to that final platform. The main characteristic of this type of mental input is that there is an existing product platform but the final format of the product depends on customer's measurements or individual preferences for the various options available, for example choosing a hard drive for a Dell computer, a stereo package for a Pontiac automobile, or being fit for a suit at Men's Wearhouse.

The final part of the chart shows that a customer may participate in multiple parts of the manufacturing process creating a participation loop. For example, a customer may interact with a golf equipment supplier to determine customer specific attributes of a set of clubs; for example shaft length or grip size. Thus, the customer has completed the customization stage. If the manufacturer then ships the parts (the shafts cut the proper

length, the grips, the clubheads, etc.) to the customer for assembly then physical input is required from the customer and this may be co-production. At any point in the flowchart of co-creation, customer's input is enough to complete the good and the process ends.

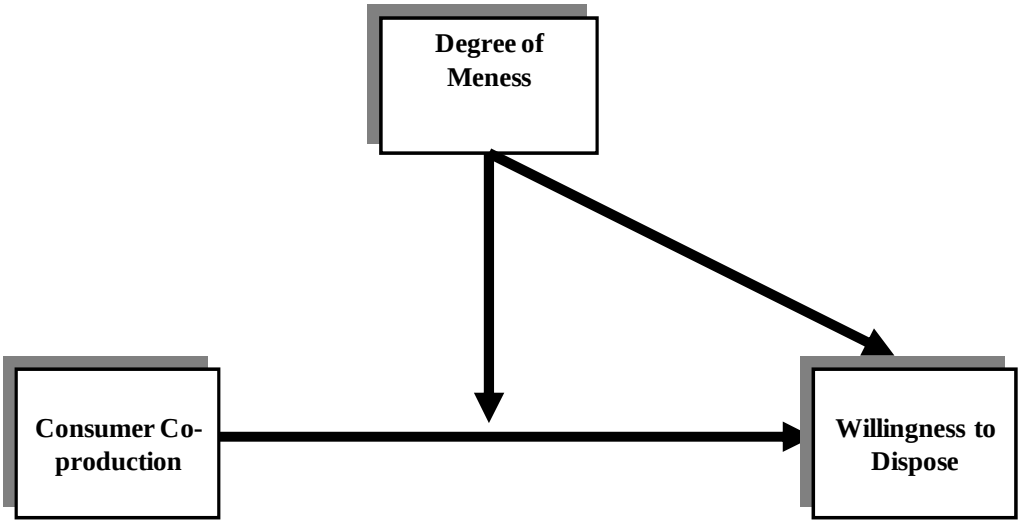
In this dissertation, I focus on the emotional attachment resulting from situations that involve the physical contribution by the customer in the creation of the good in the pre-purchase stage. Further research may be needed to see if the model that I attempt to represent may be replicated in closely related phenomenon.

Study 1

In this section I present a model that depicts the phenomenon when a customer is involved in co-production activities. The model shows that when a customer is involved in co-production, there is a lower probability that the customer will be willing to dispose of an object (see Figure 5). Furthermore, this effect is stronger when there is a high degree of meness. I also propose that the reason for such lower intentions to dispose of the object is explained by the emotional attachment to the object generated by the interaction of co-production and meness.

For clarity purposes, I begin by presenting the first part of the model where co-production is correlated to the willingness to dispose of an object (WTD). Then, I discuss the effect of meness on WTD. Finally, I introduce the process mediation of emotional attachment to the object between co-production, meness, and the willingness to dispose of an object.

FIGURE 5
CO-PRODUCTION, MENESS AND WTD



Co-production → Willingness to Dispose

As previously noted in Chapter II, most of the research on customer participation has been done in the realm of services. The consequences of customer participation in service delivery have been documented following two perspectives: from the company's and from the customer's. From the company's perspective, some positive outcomes are the increment of productivity and reduction of cost that the firm would attain by substituting employee labor with customer participation (e.g., Lovelock and Young 1979; Mills et al. 1983; Mills and Morris 1986; Bowen 1986).

From the consumer's perspective, customer participation is related to satisfaction (Dellande et al. 2004; Bendapudi and Leone 2003; Lengnick-Hall et al. 2000; Meuter et al. 2000), perceived quality (Kelley et al. 1992; Lengnick-Hall et al. 2000), intentions to re-participate in co-creation (Dong et al. 2007), commitment and loyalty (Bagozzi and

Dohlakia 2006; Simonson 2005; Dellaert and Stremersch 2005), and customer involvement in new products (Sawhney et al. 2005).

Research in cognitive dissonance has long recognized that individuals engaged in effort will value the outcome more than individuals who receive the same outcome without the effort due to the justification of effort effect (Festinger 1957, Aronson and Mills 1959). However, recent research findings have questioned whether this effect is due to dissonance or some other process (e.g., Klein, Bhatt, and Zentall 2005). In the manufactured goods setting, Franke and Piller (2004) found that willingness to pay was almost 100% higher when participants evaluated a self-designed watch. Also, Franke and Shreier (2008) investigated the customer input in the creation of a good and its relationship with customer satisfaction. They propose that individuals should be offered the opportunity to make original contributions during co-production so the outcome becomes more valuable.

Thus, previous research findings suggest that customer participation can produce positive outcomes for a company such as a higher willingness to pay, improved customer satisfaction, and stronger product preference. However, other possible consequences of co-production have not been explored, e.g., willingness to replace the object, willingness to dispose of the object, or life time customer value.

There is evidence in the literature that when a person makes a good, there might be psychological reactions that make the person hold on to those items for a longer period of time. Co-production involves the customer's hands-on participation in the creation of a good. The customer helps in making something that did not exist before his input. This physical input in the co-production of an object may elicit a sense of authorship

(Bendapudi and Leone 2003). Locke (1690) and Belk (1988) argued that when individuals perceive an outcome as a result of their own work, their labor entitles them to a total or partial sense of property over the good. In turn, the sense of property over the good has been related to higher liking for the good.

Previous researchers (e.g., Sen and Johnson 1997; Thaler 1980) have also shown that mere-possession may induce instantaneous preference for the possessed object. The mere-possession effect and its related concepts have been widely studied. Heider (1958) argued that when a person possesses an item that person will tend to like it. Another example is Thaler (1980). In what he calls the endowment effect, Thaler shows that buyers and sellers of a common good differ in their pricing, suggesting that mere-possession increases the value of the good. Also, the mere-possession of an object makes people more reluctant to exchange it for a new one. Another example showed that the mere-possession effect is present in cases where psychological possession occurs (Sen and Johnson 1997).

In the context of this dissertation, I suggest that when a customer co-produces a good there are phenomological factors that induce a sense of authorship over the co-produced outcome, thus making its possession more important. Since the individual that co-produced will have authorship over, and retain possession of the object, I expect that they will tend to stick with the object longer.

I expect that co-production will have several levels according to the tactile input that the customer provides. Previous research shows that the more that a customer is physically involved with the object though tactile input, the better evaluations that the customer will have of the object (Grohmann, Spangenberg, and Sprott 2007). Since co-

production involves more tactile input contact with the product than non-co-production, the co-produced item should be more favored by the customer and, hence, the customer will desire to maintain possession over a longer time horizon.

Based on the above reasoning, I expect that a person who is engaged in a high level of co-production will be more reluctant to let go of the object. That is, the customer may not be as willing to dispose of the object as a person with a low co-production (low tactile input).

H1: When co-production is high, there will be a significantly lower willingness to dispose of the object compared to when co-production is low.

Meness → Willingness to Dispose

The degree of meness refers to the degree to which associations develop between an object and the self. The level of meness is important because it is related to the willingness to dispose of an item. There is some evidence that when individuals relate their possessions to their self, the objects are more meaningful (Belk 1988; 1992). Other research has shown that meaningful objects are more prone to be kept and are less subject to disposal (Walker 2006, Price et al. 2000; Curasi et al. 2004).

The idea that cognitive associations are important for meaning creation has been widely discussed in the literature. Previous research has found that individuals relate their identity to a series of associations or cognitive schemas. This approach is based on social-cognition and schemata literature. Bretherton (1985) proposes that an individual has an internal working model of mental associations that help him define the world and his sense of self. Consumption objects and events are often included in such mental networks to make sense of the world. Individuals use these associations to define their

identity, reinforce their sense of self, and define their roles in life (Baldwin et al. 1996; Kleine et al. 1995; Richins 1994b; Kleine et al. 1993). Thus, associations between objects and a person's self is a relevant because, within the context of co-production, there might be situational factors that influence these associations.

In the context of co-production there are several ways in which meness can be generated. For example, when a person is making a teddy bear in a Build-a-Bear store, the customer may include inside the bear a personal sound, photos, or any other objects that have some symbolic meaning. Research shows that simply having a choice may result in the development of object-person associations (Gawronski et al. 2007). Also, meness can result if the customer co-produces on a specific day such as his birthday, or with a special person. Research has shown that people are adverse to lose objects to which they are associated (Sivadas and Venkatesh 1995). Accordingly, including meness in the model is important because when object-person associations develop the individual will be more unlikely to part with the object. So I propose the following:

> H2: The willingness to dispose of an object is lower when the extent of meness is high compared to low.

As pointed out in Chapter II, an individual may extend his self to an object in different ways. However, not all objects are associated with the self. A customer may co-produce a wide array of products in daily life; for example, if an individual participated in making a burger at Fuddrucker's we might not expect associations to develop between the individual and the soon to be consumed sandwich. Then too, an individual may participate in making a teddy bear at Build-A-Bear with the expressed intention that the bear would be a gift for another person. This is another situation in

which associations between the object and self may not develop. This implies that meness is not always coincidental with co-production.

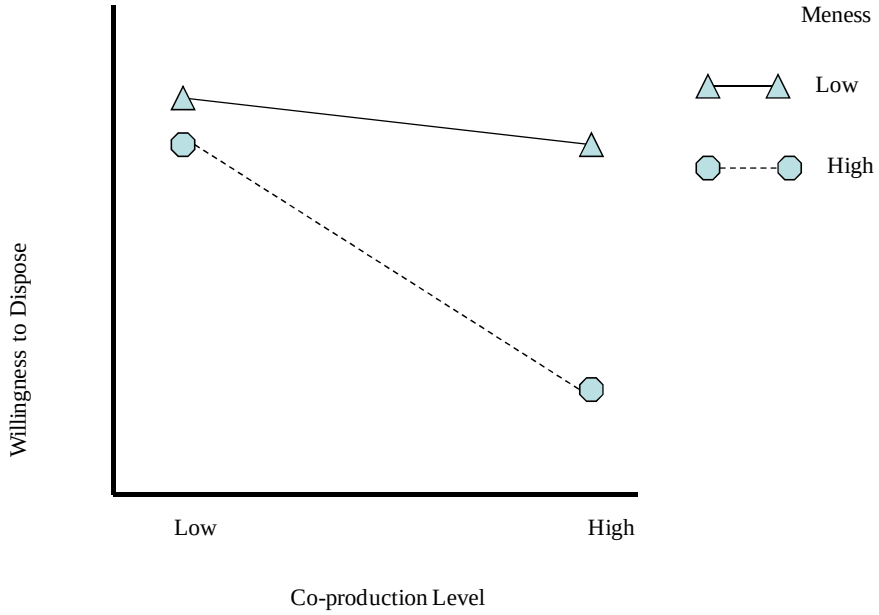
As the examples above show, participating in product creation when the *a priori* intent is to dispose of the object is qualitatively different than participating in co-production when there is no such *a priori* intent. When an individual plans to co-produce an object that is not subject to associations with the self, then the individual will be willing to dispose of the object at rate comparable to non-co-produced products. On the other hand, when a co-produced item is subject to association with the self, intentions to dispose of the product should be much lower. This suggests that meness and co-production interact in determining the individual's willingness to dispose.

In the context of co-production, I expect that the level of meness is going to have an impact in the case when there is a higher level of tactile input. I argue that the opportunity for an individual to interact with the object is needed for the associations between the self and the object to develop. For example, it is well accepted in the literature that trophies and medals are highly associated with the self because they may provide a sense of identity. Let us suppose two scenarios, first an athlete that wins a medal in the Olympic games and loses his medal right after the ceremony (low opportunity for a bond) and the case of an athlete that takes his medal home, and after several years he loses his medal (opportunity to develop a bond). In both cases the stress of losing the medal will be high, however in the first case, if the Olympics committee replaces the medal with another one, the individual may be equally satisfied. But, in the second case, a replacement medal would not be valued by the athlete. In this case, time is a factor that provides the opportunity for individual to transfer associations to the co-

produced object. Therefore, I propose that interaction with the object, including tactile contact, will provide the opportunity to self-object associations to develop.

H3: There is an interaction effect between meness and co-production in determining willingness to dispose of a product.

FIGURE 6
MODERATING EFFECT OF MENESS



Specifically, I suggest the following complex effects that will be tested via *a priori* planned contrasts (Brown and Melamed, 1991; Winer, Brown and Michels 1991; Tybout and Sternthal 2001). In the high co-production condition, there should be a significant difference in willingness to dispose of the object based on the level of meness. When meness is low the object is sufficiently divorced from the individual that the origin of the item, whether co-produce or not, is unlikely to affect the willingness to dispose of the object. However, when meness is high the associations that develop between the object and the self are likely to make the individual's input into the object seem more

personal. That is, the sense of authorship will be much stronger and more salient. The opportunity to interact with the object will allow EA to build. Thus, in the high co-production condition, willingness to dispose of the object should be significantly lower when there is high meness versus low meness.

H_{3a}: When co-production is high, the willingness to dispose of the object will be significantly lower when meness is high compared to low.

On the other hand, when meness is high the level of co-production should lead to significant differences in the willingness to dispose of the object. By the same argument made above, when meness is high the associations that develop between the object and the self are likely to make the individual's input into the object seem more personal increase, the sense of authorship, and allow an opportunity to interact with the object. In contrast, in the low co-production condition there is not a sufficient opportunity for associations to transfer to the object. Thus, even though the potential exists for the person to transfer their self-evaluations to the object they will be unable to do so for a lack of opportunity. Thus:

H_{3b}: When meness is high, willingness to dispose of the object should be significantly lower in the high co-production than in low co-production.

Process Mediation

Including meness in the model is important because it has been argued that the incorporation of the extended self leads to an attachment to the object (Sivadas and Venkatesh 1995; Belk 1989). In marketing, researchers have followed this approach to explain consumer's attachment to special possessions (e.g., Thomson et al. 2005; Kleine

et al. 1993; Ball and Tasaki 1992). In this section, I propose that co-production and meness are related to willingness to dispose because of emotional attachment. Process mediation refers to the idea that when an organism receives a stimulus, there is an internal transformational process in the organism that transforms the stimuli into an output response. These processes or entities intervene between the input and the output (Baron and Kenny 1986). Baron and Kenny further suggest that a "given variable may be considered a mediator to the extent that it accounts for the relationship between the predictor and the criterion (p.1176)."

Emotional attachment, which refers to the emotional bond connecting an individual with a specific object, may be the mechanism under which co-production and meness lead to willingness to dispose. In the context of this dissertation, emotional attachment is proposed to be the mechanism underlying the effect of co-production and meness to the willingness to dispose of an object because 1) Co-production and EA are related, 2) meness and EA are related, and 3) EA and WTD are related. I will explain each of these relationships in turn.

1) Co-production and EA are Related. Co-production which refers to the customer's hands-on participation in fabricating an object, and EA may be part of the same nomological net because they seem to have common antecedents and consequences. Co-production and EA are both related to a customer's involvement before consumption. This involvement in the creation of the product before it is ready to be used allows the customer to have a mental (e.g., designing) or psychical (e.g., assembling) interaction with the product before consumption. This interaction may also be related to emotional attachment. Emotional attachment has been suggested to be anteceded by both prefactual

interaction (option attachment) and proximity (Carmon et al. 2003; Ball and Tasaki 1992).

Also, co-production and emotional attachment share common consequences such as satisfaction and commitment. As exposed in the literature review, customer satisfaction is a common dependent variable of customer participation in the creation of a good or service (e.g., Dellande et al. 2004; Bendapudi and Leone 2003; Lengnick-Hall et al. 2000; Meuter et al. 2000). Another variable discussed in Chapter II that appears in both literatures is commitment (e.g., Bagozzi and Dholakia 2006; Rempel et al. 2001; Spake et al. 2003; Thomson 2006; Thomson et al. 2005). EA is proposed to lead to commitment (e.g., Thomson et al. 2005), and customer participation is also thought to lead to commitment (e.g., Dellande et al. 2004; Bagozzi and Dholakia 2006),

In the phenomenon under study, I expect EA to be anteceded by customer co-production on the bases of the level of customer interaction with the object. The interaction during the co-production may elicit an emotional bond in several ways. First, the physical input in the co-production of an object may elicit a sense of authorship. Locke (1690) and Belk (1988) argue that when individuals perceive an outcome as a result of their own work, their labor entitles them to a total or partial sense of property over the good. Such endowment has been shown to be related to emotional attachment (Ariely et al. 2005). Then, if the level of physical input is higher, the sense of ownership (i.e., the endowment) should be higher thus increasing the bond with the object.

Another way how interaction in co-production may elicit attachment is through the imaginary interaction with the finished product. This psychological interaction occurs when the person imagines himself using the product when is finished. Previous

studies show (e.g., Carmon et al. 2003; Ariely and Simonson 2003; Ball and Tasaki 1992) that customers do have mental interaction with the object before owning the object and that this interaction creates a pre-factual emotional bond.

Additionally, when the customer is creating the object, it may elicit a sense of anthropomorphism. That is, the customer may start imbuing the object with human characteristics as if he is bringing something to life. Jiménez and Voss (2007) propose that it is possible that a person that anthropomorphizes an object could get emotionally attached to it. Anthropomorphism refers to a person assigning human characteristics to an object; engaging in an imaginary relationship with it. In these cases, objects are no longer seen as inanimate objects, but animated entities that the individual interacts with. Individuals are loss averse to relationships (Hazan and Shaver 1994), so losing an anthropomorphized object may lead to a sense of loss because an emotional bond has developed. For example in the movie "Cast Away," Tom Hank's character anthropomorphizes a volleyball which becomes his only friend "Wilson." When Hanks loses Wilson in the sea, he risks his own life to save his "friend." This is an example of how an emotional bond to an object may result in strong motivations to retain the object.

Finally, the proximity to an object may create a bond to it. Bowlby (1969) argues that proximity to the attachment figure is important to create an emotional bond, especially if the attachment figure provides a sense of safe haven and comfort. Since co-production brings the individual into close proximity with the object, the initial bonds of EA are likely to form (Jiménez and Voss 2007). Thus, co-production and EA are related.

2) Meness Leads to EA. As explained in Chapter II, there are different explanations of why an individual becomes attached to his possessions. One explanation

is because the object becomes meaningful and symbolic (e.g., Richins 1994b). Another explanation is that the object becomes part of the extended-self (Belk 1989, 1992). What these explanations have in common is that associations develop between the self and the object. This is reflected when the individual transfers pre-existing self-evaluations to the object. Bretherton (1985) proposes that an individual has an internal working model of mental associations that help him define the world and his sense of self. If an object is seen as possessing an attribute which the individual feels that they also possess, the individual will transfer their evaluation of their own attribute to the object (Gawronski et al. 2007, Greenwald, Banaji, Rudman, Farnham, Nosek, and Mellott 2002). Individuals use these associations to define their identity, reinforce their sense of self, and define their roles in life (Baldwin et al. 1996; Kleine et al. 1995; Richins 1994b; Kleine et al. 1993). The association of a possession with the self is relevant to my model because it leads to EA to the object (Sivadas and Venkatesh 1995; Belk 1989). Thus, to the extent that meness exists, the more likely it is that EA will develop (Belk 1989).

3) EA is Related to WTD. Variation in EA may account for variation in the willingness to dispose of an object. As it has been previously argued in Chapter II, the findings of research on emotional attachment have mostly been done on the positive outcomes of the attachment such as loyalty, commitment, and satisfaction. Although few studies directly assess the impact of emotional attachment on the willingness to dispose (e.g., Walker 2006), other studies indirectly suggest that individuals make efforts to preserve certain objects (Belk 1992, Wallendorf and Arnould 1988), and that individuals may become more loss averse if they are emotionally attached to the object (Ariely et al.

2005; Novemsky and Kahneman 2005). So, based on the previous findings I suggest that EA will be negatively related to the willingness to dispose of an object.

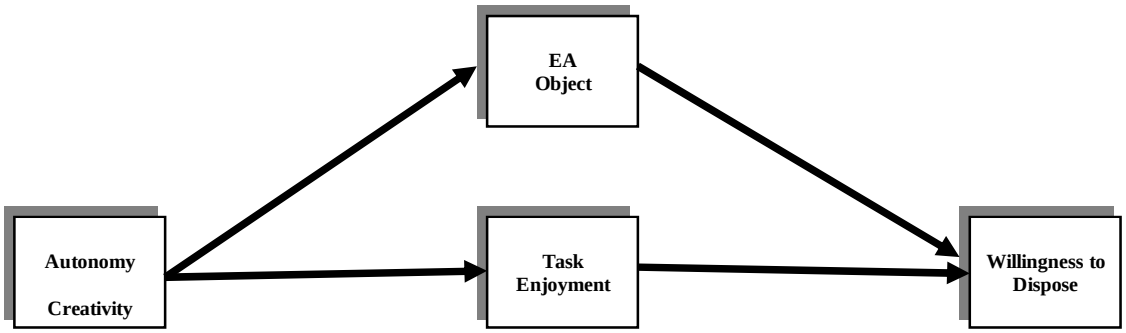
H4: Emotional Attachment fully mediates the effect of co-production and meness on WTD.

Study 2

According to study one, as tactile input in co-production increases the co-producers willingness to dispose of the object decreases. This is due to the emotional attachment created by the interaction of the customer and the object. Further, this effect should be stronger only when the object is highly associated with the self. That is, study 1 proposes a model where the focus of the co-production activity is the object.

The purpose of study two is to propose a model for the role of emotional attachment in co-production when the focus of the co-production activity is the task. I suggest that a manager may be able to influence the co-production process in such a way that the customer focuses on the process (i.e., the activity) instead of focusing on the outcome (i.e., the object). In my model (see Figure 7), I propose that creativity and autonomy in the task interact to increase the level of task enjoyment. Further, I propose that as task enjoyment increases, the role of EA on willingness to dispose of an object is decreases. In the following sections I will explain the theoretical foundations for my propositions and I will state the corresponding hypotheses.

FIGURE 7
MODEL FOR STUDY 2



I propose that managers might mitigate the effects of EA by manipulating creativity and autonomy in the task. Such conditions might make the task more enjoyable and may encourage the willingness to participate in the activity again. Figure 7 shows a model in the context of customer co-production of products. The figure shows that autonomy and creativity positively impact task enjoyment only when autonomy and creativity are consistent. Then, EA to the object and the task enjoyment predict the willingness to dispose of the object. In these cases, the object is likely to become less valued to the individual leading to a higher willingness to dispose of the object. Next I draw from theory to explain the hypothesized relationships.

Autonomy and Creativity→ Task Enjoyment

Creativity is defined as "the generation of ideas, insights, or problem solving solutions that are new and meant to be useful (De Dreu et al. 2008, p. 739)." Published research shows that creativity varies in any specific individual's mental state (Mumford 2003). This variation is relevant in the current context because co-production provides an opportunity in which the individual may or may not activate their creative resources.

It has been shown that and individual's readiness to engage in creative tasks is not constant across mental states (Lyubomirsky, King, and Diener 2005; George and Brief, 1996; Mumford 2003). This variation of creative readiness is of managerial interest because if customers are not ready to experience creative thinking, then participation in the task may be more mechanistic and, thus, detrimental to task enjoyment. De Dreu et al. (2008) showed that activating mood states enhance creative fluency and originality due to enhanced flexibility. More specifically, activating moods (e.g., angry, fearful, happy, elated) lead to more creative thinking than deactivating moods (e.g., sad, depressed, relaxed, serene). In the co-production context, I propose that creativity is relevant because it may lead to different levels of task enjoyment.

Autonomy in the context of co-production refers to the extent of perceived freedom during the hands-on production of a good (adapted from Dahl and Moreau 2007). Dahl and Moreau showed that autonomy in the task is correlated to the level of task enjoyment, which refers to the extent to which individuals enjoy and have fun during the performance of the task. Moreover, they found that there is a higher level of enjoyment when participants are allowed to finish the product as they wanted compared to the case when the participants are provided an ideal end state of the good they created (i.e., a picture of a finished good). Nevertheless, autonomy had to be matched with the proper level of instructions to complete the task.

In the above text I argued that customer creativity and high levels of autonomy may increase task enjoyment. But, what would happen if a customer is in a deactivating mood and he is provided with autonomy in a task? Or what happens if a customer feels creative and he is restricted in the task? To answer these questions I propose that an

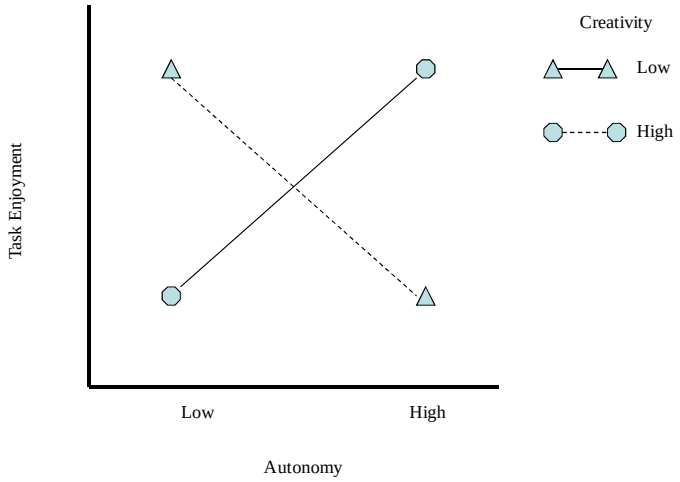
interaction effect exists such that task enjoyment will be significantly higher if customer creativity is matched with autonomy in task performance.

As noted above, Dahl and Moreau (2007) showed that autonomy in the task is correlated to the level of task enjoyment. In the retailing context, Ward and Barnes (2001) showed that perceived autonomy was associated with a more positive mood which was shown to be associated with creativity in the De Dreu et al. (2008) study. It is important to note that Dahl and Moreau showed that the autonomy – task enjoyment relationship disappeared if individuals were given a photograph of an idealized outcome. Thus, the empirical evidence available in the literature very strongly implies that autonomy has an effect on task enjoyment only when the participants were in relatively positive moods and were given the freedom to implement their own ideas. Thus, when a customer's creativity is activated but they are not given the freedom to act, task enjoyment should be significantly less than when creativity is activated and the participant is given autonomy.

In both the sales literature and the customer participation literature, it has been argued that in cases when individuals do not know what to do in a given task (role ambiguity), they experience stress which in turn negatively impacts job satisfaction (Mills and Morris 1986; Hartline and Ferrell 1996). Similarly, when a customer's creativity is deactivated, the customer may have fewer ideas, less originality, and less flexibility in thought. If the customer is then tasked to act in an autonomous fashion, then the individual is likely to not know what to do. Thus, when an individual is in a non-creative mood, autonomy will create a sense of frustration or incompetence; thus reducing the task enjoyment (See Figure 8). Accordingly,

H5: There is an interaction effect such that task enjoyment will be significantly higher when the participant is in creative mood state and is granted autonomy.

FIGURE 8
AUTONOMY × CREATIVITY



Process Mediation of Task Enjoyment

As argued in study one, co-production elicits a sense of emotional attachment to the object making the item less subject to disposal. I argue that when individuals enjoy co-production they will desire to engage in more co-production. For instance, if a person enjoys the task of building teddy bears, then that individual might be willing to give bears away in order to justify engaging in the experience of co-production again. Then too, as the individual iterates through multiple co-production episodes, the distinctiveness of any specific co-produced output is lessened. Thus, the more an individual enjoys the co-production task the more willing that person is to dispossess the object.

It is also the case that individuals focus on the positives in order to mitigate or ignore the negatives (for a review see Taylor 1991). Recent research by Cowley (2008) suggests that when individuals enjoy a task but re-engaging in that task may produce

losses, then the individuals engage in "hedonic editing." Cowley proposes that individuals tend to focus on the hedonic attributes of experiences to justify their decision to do them again even in the presence of losses. Thus, the more an individual likes an activity, the more that individual will rationalize repetitive engagement in the activity by focusing on the positive experience rather than potential losses. Thus, in the present context, I expect that as an individual's task enjoyment increases, so does the likelihood that the individual will be willing to dispose of the object (i.e., I can make another one and I have fun doing it). Then:

> H6: Task enjoyment, rather than EA, will be the process mediator between creativity, autonomy, and willingness to dispose of the object.

Next, I describe the methodology employed in order to test the proposed hypotheses. I present an overview of the design, the object used in the experiment, the manipulations, the participants, the procedure, the measures, and the statistical procedures to test the hypotheses.

CHAPTER IV

METHODOLOGY

This chapter proposes two studies to test the theory-driven hypotheses formulated in Chapter III. I opted to follow an experimental approach. Experimental designs are more powerful than nonexperimental designs in establishing causal relationships among variables due to the random assignment of the subjects, the control of comparisons, and the manipulation of the independent variables (Campbell and Stanley 1963; Spector 1981). Although the control for other variables in a lab setting may bring ecological validity trade-offs, the lab setting ensures more internal validity which helps in assessing the impact of the independent variables on the dependent variables and it is a strong test of causality.

In study 1, I test hypotheses 1-4. In general the purpose of the experiment is to determine if co-production leads to a less willingness to dispose of an object, and if this effect may be stronger when the object is associated to the individual's self. Also, it tests emotional attachment as an underlying cause for the proposed relationships. Study 2 tests for hypotheses 5-6 which concern the effect of creativity and autonomy on task enjoyment. In addition, this study explores if the impact of EA on WTD decreases as a result of an increase in task enjoyment. A summary of the hypotheses and the studies is shown in Table 5.

TABLE 5
SUMMARY OF STUDIES AND HYPOTHESES

Study		Hypotheses
Study 1	H_1:	When co-production is high, there will be a significantly lower willingness to dispose of the object compared to when co-production is low.
	H_2:	The willingness to dispose of an object is lower when the extent of meness is high compared to low.
	H_3:	There is an interaction effect between meness and co-production in determining willingness to dispose of a product.
	H_{3a}:	When co-production is high, the willingness to dispose of the object will be significantly lower when meness is high compared to low.
	H_{3b}:	When meness is high, willingness to dispose of the object will be significantly lower in the high co-production than in the low co-production.
	H_4:	Emotional attachment fully mediates the effect of co-production and meness on WTD.
Study 2	H_5:	There is an interaction effect such that task enjoyment will be significantly higher when the participant is high on creativity and is granted autonomy.
	H_6:	Task enjoyment, rather than EA, will be the process mediator between creativity, autonomy, and willingness to dispose of the object.

Next, I describe each study in turn. Each study's description consists of six sections: 1) an overview of the design, 2) the object, 3) pretests of manipulations, 4) the participants, 5) the procedure, 6) the measures, and 7) the statistical procedures to test the hypotheses.

Study 1

The purpose of this study was to test weather emotional attachment mediates the relationship between co-production, meness, and willingness to dispose. Next, I describe the following sections: 1) an overview of the design, 2) the object, 3) the manipulations, 4) the participants, 5) the procedure, 6) the measures, and 7) the statistical procedures to test the hypotheses.

Design Overview

This study is a 2 (meness: low, high) × 2 (co-production: low, high) between-subjects factorial design. The first factor primes the degree of meness with one condition where there is low meness and one where there is high meness. The second factor manipulates whether the level of co-production is low or high. The study was run in a controlled lab setting with random assignment of subjects to conditions. The experiment contemplated the test of a new co-production concept. Undergraduate students were recruited in exchange for the product they would co-produce.

The manipulation of meness involved priming the association of the self with the object. The prime was accomplished by a training task that teaches the subject to either: 1) associate pillows with words related to the self (high meness), or 2) associate pillows with words related to others (low meness). The co-production manipulation was done by having the student finish making the pillow with his/her own hands (high co-production), or a lab assistant finish making the pillow based on the participant's recommendations (low co-production). In both cases the participant chose materials. Both manipulations were pretested prior to the main study.

After the completion of the pillow, participants answered a questionnaire containing measures of EA, willingness to dispose, separation distress, and demographic questions such as age, gender, year in college, and ethnicity. The questionnaire was proctored by a different person in a different room to avoid social desirability bias. After the completion of the questionnaire, the participants were dismissed. I further explain each part of the experiment in detail in the following sections.

The Object

The product used in the experiment was a pillow. The decision was made after I conducted some interviews among marketing doctoral students and faculty members about objects that could be co-produced. The list to be considered in designing the experiment looked as follows:

- Teddy bears
- Scrapbooking
- Ikea (house interiors)
- Jewelry
- Quilts
- Baskets
- Toys (cars)
- Furniture
- Pillows
- Handcrafts
- Pottery
- Paintings
- Art in general

At first, the idea of teddy bears was appealing since there is a famous company nearby called Build-A-Bear. However, due to location, cost, time, and traveling liabilities, a different product that could be used in a lab setting was suggested: a pillow. The pillow was chosen due to feasibility and adequacy. It is feasible to have individuals with no prior experience to make pillows. Also, making pillows resembles the process in which customers engage to co-produce teddy bears in Build-A-Bear stores. I tried to mimic Build-A-Bear's process of stuffing, attaching, and touching the teddy bear when participants made their pillow.

Manipulations

Meness and co-production were manipulated variables in study one. I will explain the manipulations for each variable and the pretests conducted to assure the success of such manipulations. First, I discuss the manipulation for meness and then the manipulation for co-production.

Meness manipulation. There are several sources to adhere meness to an object. As I previously discussed, the sources may range from memories, to achievement, or interpersonal ties, among others. In the context of the experiment, I manipulated meness by priming self associations with the object by using a priming procedure similar to Gawronski et al. (2007). The procedure is described in full in the section of the pretest 2. I had to run two pretests since the first pretest was not successful. Corrections were made and pretest 2 showed a successful manipulation of meness and the same procedure was used in the main experiment.

Pretest 1. The first pretest was run using power point slides showing either pictures of pillows or pencils. In the high meness condition participants were instructed to match words related to the self (e.g., self, me, I, mine, my) to pictures of pillows and to match words related to others (e.g., other, them, their, they, it) to pictures of pencils. In the low meness condition, participants were asked to do the opposite. That is, they were instructed to match words related to others to pictures of pillows and to match words related to the self to pictures of pencils. A series of 10 pictures were shown (five pillows and five pencils). 38 undergraduate female business students participated in the task during 3 days one at a time. 18 respondents were randomly assigned to the low meness condition and 20 were assigned to the high meness condition. A multivariate test was run

using manipulation checks as the dependent variable and using meness condition as the fixed factor. None of the variables was significant at a level of significance of .05. The dependent variable questions were: 1) There is an association between the pillow and me ($p > .336$), 2) There is a link between the pillow and me ($p > .101$), 3) My pillow and I are somehow related ($p > .188$), and 4) There is a connection between my pillow and myself ($p > .318$). I created a summated scale with the four items since they loaded in one factor and showed high reliability (Cronbach's alpha = .925). Then, I tested for the difference between meness conditions on the summated dependent variable. I ran an ANOVA with meness (low, high) as the independent groups and the summated scale as the DV. The results show that there was not a significant difference ($df = 1,35$, $F = 1.896$, $p > .176$). The low meness condition's mean was 3.056 and the high meness condition's mean was 2.382. Since this first attempt to manipulate meness did not work, I refined the procedures and I ran a second pretest.

Pretest 2. A second pretest was conducted to manipulate the level of meness by refining the procedure used in pretest 1. This pretest was conducted using Qualtrics (2008). The procedure was as follows. The prime involved sequentially showing participants pictures and words related to the self and others on a computer screen using Qualtrics. Different pictures of pillows and pencils were used. Pencils were used as a pair in the task because they are unrelated to the co-production of a pillow. There were two types of screens in each condition (high vs low meness). The first type of screen had as heading a word related to the self (e.g., self, me, I, mine, my) or a word related to others (e.g., other, them, their, they, it). Then two pictures, one pillow and one pencil, were shown below and they had to match by clicking on the right word (related to self or

other) according to the instructions in their condition. The second type of screen showed one picture, either a pillow or a pencil, and two words (self or other) so the participant had to match by clicking on the right picture according to the instructions they were given.

In the high meness condition participants were instructed to match words related to the self (e.g., self, me, I, mine, my) to pictures of pillows and to match words related to others (e.g., other, them, their, they, it) to pictures of pencils. In contrast, in the low level of meness condition participants were told to match words related to the self (e.g., self, me, I, mine, my) to pictures of pencils and to match words related to others (e.g., other, them, their, they, it) to pictures of pillows (see Table 8).

Before initiating the task, their level of association to pillows and pencils was measured and two warm-up questions were forced with correction screens in case they made mistakes. The order and presentation of the options, words or pictures, was randomly assigned to each individual. A total of 20 screens (half with two pictures and one word, and half with two words and one picture) were shown. In addition, manipulation check questions were asked at the end of the computer task. Response times were also recorded for each screen.

The participants in pretest 2 were 190 undergraduate students. The pretest was conducted in a lab environment. There were male and female participants. None of these participants are the same from the previous pretest. 189 respondents completed the survey. 100 respondents answered the High meness condition and 89 the low meness condition. The pretest was run during three days. Respondents were given bonus points

for their participation and they were given bonus points if they would bring a friend with them.

The goal of the pretest was to test if the manipulation of the self-anchoring prime worked. I tested in different ways. First, before the prime started, I asked them to rate their level of association with pillows and pencils. I showed participants a picture of a pencil and a picture of a pillow separately and asked them to report their level of association to the self or to others. Then I repeated the measure at the end of the task. The results show that for the pre-measure there is not a significant difference of level of association for either pillows or pencils to either words related to self or others between conditions. In the post measure, there is a significant difference on the level of association of pillows or pencils to the word self or to the word others ($p < .001$) such that those individuals in the high meness condition relate pillows with the self and individuals in the low meness condition relate pillows with others.

A second measure was to check if the participants remembered what they were asked to do. Respondents in the high meness condition reported that they were asked to match words related to the self to pillows and words related to others to pencils which is significantly different to the respondents in the low condition who reported the opposite ($p < .001$).

Third, I asked a series of questions about probable associations of the self to either pencils or pillows. The results show that the individuals correctly associate the self with the corresponding item: pillow or pencil. Those people in the high meness reported a higher level of association than those in the low meness condition ($p < .001$). I also checked for the proposed manipulation check scale for meness which includes 4 items.

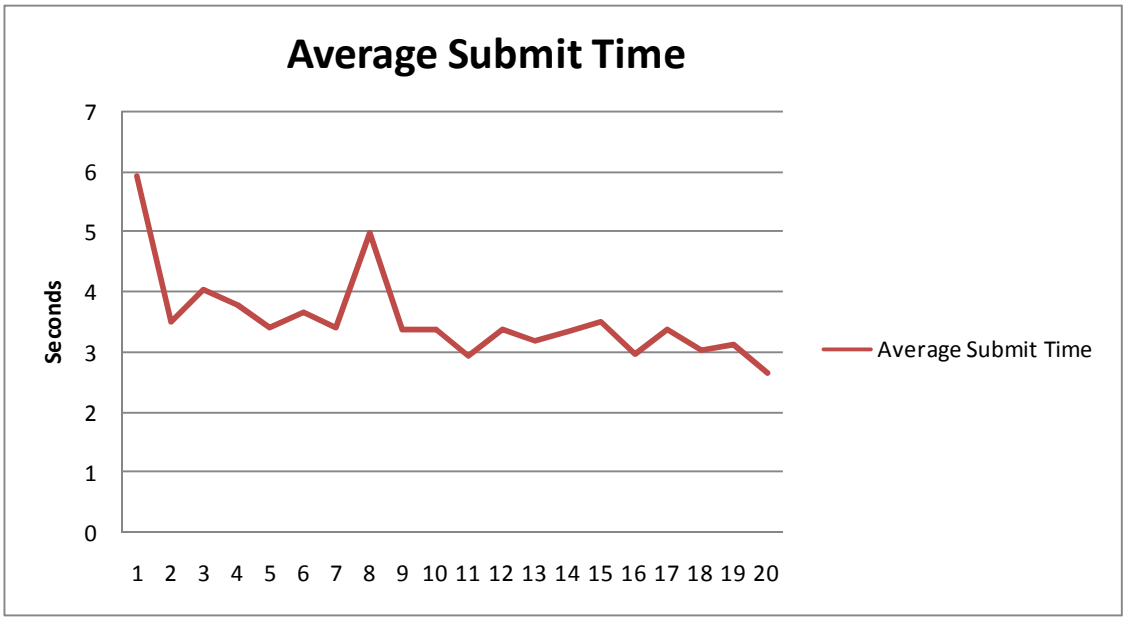
The items were: 1) There is an association between pillows and me, 2) there is a link between pillows and me, 3) Pillows and I are somehow related, 4) There is a connection between pillows and myself. Table 6 shows the correlations among the items, Cronbach's alpha, and EFA results.

TABLE 6
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS FOR THE MENESS MANIPULATION CHECK

Scale		Factor loading	Item-Total Correlation
Meness Scale (ME)			
ME 01		0.872	0.899
ME 02		0.945	0.951
ME 03		0.871	0.867
ME 04		0.929	0.940
Eigen Value	3.275		
% of Variance	81.876		
Cronbach's alpha	0.925		

Finally, I analyzed the average response times by taking the time it would take respondents to complete the task in each page (in seconds). As the graph shows, there is a gradual reduction in response time as the participant advances in the task. This reduction time suggests that the respondents are assimilating the associations (see Figure 9).

FIGURE 9
RESPONSE TIMES FOR THE MENESS PRIME



In sum, these results indicate that the manipulation of meness was successful. The computer task and procedure used in this pretest were replicated in the main experiment.

Co-production Manipulation. The co-production level was manipulated by the level of tactile input that a participant had during the making of the pillow. In the low co-production condition, the participants had a low tactile input. In the high co-production condition, the participant had a high tactile input in the production process. In both situations the students entered the assigned room, and were shown a series of options from which to choose such as the pillow covering and stuffing materials. To eliminate the threat of contamination due to group dynamics, only one participant did the task in a lab room at a time. The pillow coverings were made from a variety of fabrics and were pre-sewn on three sides.

In the high tactile condition, the participants were specifically asked to touch the fabric and other material during the choice process. Then the participants proceeded to stuff the pillow with their chosen contents. The lab assistant finished the pillow by closing the open-end (see Table 8).

In the low tactile condition, the participants chose the fabric and other material from a check list order form. The lab assistants proceeded to make the desired pillow and close the open end (see Table 8). Thus, participants had no tactile contact with the pillow materials until they were handed the finished product and sent to complete the dependent measures.

The pretest for the co-production manipulation involved 38 undergraduate female business students. They came to a lab room one at a time and they were randomly assigned to the co-production condition. 20 participants did the high co-production condition and 18 did the low co-production condition. The manipulation check for co-production was measured with a scale that included 3 items. Table 7 shows the correlations among the items, Cronbach's alpha, and EFA results.

TABLE 7
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS
FOR THE CO-PRODUCTION MANIPULATION CHECK

Scale		Factor loading	Item-Total Correlation
Co-production Scale (COP)			
COP 01		0.970	0.927
COP 02		0.922	0.831
COP 03		0.947	0.876
Eigen Value	2.687		
% of Variance	89.562		
Cronbach's alpha	0.941		

All the items loaded in one factor with the minimum factor loading being 9.22. Since the items showed good reliability with a Cronbach's alpha of .941, I created a summated scale with the three items. Then, I tested for the difference between co-production conditions on the summated dependent variable. I ran an ANOVA with the co-production condition (low, high) as the independent groups and the summated scale as the DV. The results show that there was a significant difference on the summated scale by the two groups ($F = 57.373$, $df = 1,35$, $p < .001$). The low coproduction mean was 2.148 and the high co-production mean was 5.491. This indicates that the manipulation was successful.

TABLE 8
MANIPULATIONS

Manipulation	Low	High
Meness	The participants were asked to match by clicking on a computer screen words related to self (i.e., self, me, I, mine, my) and pictures of pencils. They were asked to match words related to others (i.e., other, them, their, they, it) and pictures of pillows. Participants did 20 iterations.	The participants were asked to match by clicking on a computer screen words related to self (i.e., self, me, I, mine, my) and pictures of pillows. Also, they were asked to match words related to others (i.e., other, them, their, they, it) and pictures of pencils. Participants did 20 iterations.
Manipulation	Low	High
Co-production	The amount of tactile input was limited almost null. The participant was asked to choose from a fabric type to make the pillow from. Four different types of designs were provided for the participant to touch and choose. The fabrics varied in color. (pink, blue, white). The pillows were partially manufactured missing only the stuffing and the sealing of one of the sides.	Tactile input was encouraged. The participant was asked to choose from a fabric type to make the pillow from. Four different types of designs were provided for the participant to touch and choose. The fabrics varied in color. (pink, blue, white). The pillows were partially manufactured missing only the stuffing and the sealing of one of the sides. After choosing the fabric, the participant was asked to stuff the pillow and seal the missing side.

The successful manipulation procedures described in this section and its manipulation checks were used in the main study.

Participants

The participants in the main study were 130 female undergraduate students over the age of 18 at a large Midwestern university in the United States. The students were recruited through ads around campus encouraging them to participate in a testing of a new company concept. Since the product is relevant to a female population, sorority houses were targeted with direct appeals. A snowball technique was also used by telling

girls to bring their friends. In an experimental situation, homogeneous samples may be preferred in order to test theory. It is not the purpose of the first experiment to check for the generalization of the findings. Thus, a female population of participants could be appropriate (Calder, Phillips, and Tybout 1981, 1982). In the ad, there will be information on what is the purpose of the study in general terms without providing specific clues about the main purpose to avoid demand artifacts (Sawyer 1975) as follows:

FIGURE 10
PARTICIPANT RECRUITMENT AD

Free fun.
The Department of Marketing in the William S. Spears School of Business at OSU is currently looking for individuals to participate in a study involving product co-production and customization. *Participants will be allowed to keep the object they help co-produce.*

Must be a Female.
Must be age 18 or over
It will take about 30 minutes.
Space is limited
Reserve your place by contacting Fernando Jiménez
Fernando.Jiménez@okstate.edu or (405) 744-8674

Procedure

The main study was run over a three-week period. Every experiment day ran from 2pm – 6pm. I had three locations opened at a time. Two rooms were open for the experiment and one location was available for the participants to answer the final

questionnaire. Participation was scheduled in advance. Participating students (n = 130) were randomly assigned to one of the four conditions. Upon arrival subjects were assigned to one of the two experimental rooms.

When the participant arrived, there was one greeter outside the rooms to give the participant a number and to instruct them where they were going. One subject and the experimenter were in one experimental room at the same time. When they entered the room, they were greeted by the experimenter and they were asked to complete the meness computer-based prime. They were told that after completing the task, they would engage in making a product that they would keep for themselves. The computer task was set by the experimenter depending on the condition the participant was in (low vs high meness). When they finished the computer task, they were asked to come by the pillow making setting.

The pillow making setting consisted of having the pillow design options displayed for them to choose. Also, there was a production table ready with stuffing material, and additional items to make the stuffing entertaining such as confetti, metallic and foam figures. Participants in the high tactile condition were encouraged to touch the pillows to decide which one to keep and to stuff their pillow with their own hands. Also, participants were encouraged to use additional materials. In the low tactile condition participants were told that one pillow was going to be made for them. They were given a paper format and a pencil. The format contained spaces so they could choose the color of their pillow, the size, and the materials they wanted inside the pillow. Once the participant filled the form, they would give it to the experimenter so he could make the

pillow for them. In both conditions, it was emphasized that the pillow was for them to keep.

Once the participant finished the pillow, the experimenter would ask her to step outside the room and see the greeter. Then, the person outside the room would give them a questionnaire to fill and provide them a place to complete it.

Measures

The measures were provided in a questionnaire handed to the students once they received their pillow. The instrument included manipulation checks for the independent variables, measures for the dependent variable, the mediator, and general demographics (Appendix A).

Manipulation Checks. For meness I used a 4-item scale that was used as the manipulation check in the pretest (see Table 9).

TABLE 9
MANIPULATION CHECK FOR MENESS

	Strongly Disagree						Strongly Agree
There is an association between the pillow and me.	1	2	3	4	5	6	7
There is a link between the pillow and me.	1	2	3	4	5	6	7
My pillow and I are somehow related.	1	2	3	4	5	6	7
There is a connection between the pillow and myself.	1	2	3	4	5	6	7

For co-production I used an extent of hands-on participation scale. Existing scales in consumer co-participation assess the different dimensions of participation in services including aspects such as preparation, delivery of service, etc. Thus, I developed

a new three-item scale to measure hands-on participation in a manufacturing co-production context. This scale showed good properties in the pretest (see Table 10).

TABLE 10
MANIPULATION CHECK FOR CO-PRODUCTION

For each item below, please circle the number closest represents the extent of hands-on participation in the previous activity.	To No Extent						To Great Extent
Extent that I had hands-on participation in making the pillow.	1	2	3	4	5	6	7
Extent that I made the pillow with my own hands.	1	2	3	4	5	6	7
Extent that I physically contributed in making the pillow.	1	2	3	4	5	6	7

Dependent Variable. For the dependent variable I used an index of the willingness to dispose of an object. The index is a formative scale formed from different types of disposition type similar to Walker's (2006) scale as shown in Table 11. The items combine to form the measure used to test the proposed relationships. To validate the formative measure, I followed the procedure suggested by Diamantopolous and Winklhofer (2001) and Diamantopolous and Siguaw (2006). I used a related scale, the anticipated guilt scale Massi Lindsey (2005), to validate the index (Table 12). Guilt is an unpleasant emotional state resulting from the belief that you might be in the wrong, or that others may perceive that you might be wrong (Massi Lindsey 2005, p. 454). Anticipated emotions have been shown to be related to intentions and behavior. Anticipated guilt then, is the anticipated unpleasant feeling from being or doing wrong. This anticipated feeling is related to the willingness to dispose because when a person departs with an object with emotional attributes, then emotional reactions may occur. Thus, I expect that if a person feels emotionally attached to their object, then thinking

about the disposal of the object may cause an anticipated emotional discomfort as a sense of guilt.

For the willingness to dispose, I used a four- item scale measuring intentions to dispose of an object extracted from Walker (2006). I also added three more items to cover the domain of disposition in this context as shown in Table 11.

TABLE 11
WILLINGNESS TO DISPOSE SCALE

Please indicate on a scale of 1 ("not at all likely") to 9 ("extremely likely") how likely are you to dispose of the pillow in each of the following ways:

	Not at all likely								Extremely likely
Throw it away	1	2	3	4	5	6	7	8	9
Put it in a paid storage	1	2	3	4	5	6	7	8	9
Try to sell it (e.g. on Ebay, at a garage sale)	1	2	3	4	5	6	7	8	9
Donate it (to a goodwill or other charity)	1	2	3	4	5	6	7	8	9
Replace it with a new one.	1	2	3	4	5	6	7	8	9
Give it to a friend.	1	2	3	4	5	6	7	8	9
Give it to a family member.	1	2	3	4	5	6	7	8	9

TABLE 12
ANTICIPATED REGRET SCALE

Please circle the number that best describes your agreement with the following statements.

	Strongly Disagree						Strongly Agree
I would feel remorseful if I got rid of my pillow.	1	2	3	4	5	6	7
I would feel guilty if I did not keep my pillow.	1	2	3	4	5	6	7
I would not feel sorry for throwing away my pillow. (R)	1	2	3	4	5	6	7
I expect that I would feel bad when I give my pillow away	1	2	3	4	5	6	7
I would feel guilty if I gave my pillow away.	1	2	3	4	5	6	7

I also included a social desirability scale to account for confounding effects. The reason to include this scale is that disposal questions are likely to be impacted by the fact that the participants are getting a free pillow, then there is a risk that they would provide normative responses in order to be polite to the researchers. In order to measure social desirability, I used the social desirability scale (Table 13) from Strahan and Gerbasi (1972) which is a reduced form of the widely used Crowne and Marlowe (1960) scale.

TABLE 13
SOCIAL DESIRABILITY SCALE

You are always willing to admit it when you make a mistake	TRUE	FALSE
You always try to practice what you preach	TRUE	FALSE
You never get upset being asked to return a favor	TRUE	FALSE
You have never been annoyed when people expressed ideas very different from your own	TRUE	FALSE
You have never deliberately said something that hurt someone's feeling	TRUE	FALSE
You like to gossip at times	TRUE	FALSE
There have been occasions when you took advantage of someone	TRUE	FALSE
You sometimes try to get even rather than forgive and forget	TRUE	FALSE
At times you have really insisted on having things your own way	TRUE	FALSE
There have been occasions when you felt like smashing things	TRUE	FALSE

Mediator. For the emotional attachment to objects I developed a scale. The reason for using a new scale is that previous scales have been criticized. One claim is that they include items that reflect the antecedents or consequences of EA (Jiménez and Voss 2007, Kleine and Baker 2004). It is not desirable for a construct to be defined or measured in terms of its antecedents or consequences (Mowen and Voss 2008; Summers 2001).

The new EA scale (Table 14) consists of five semantic differential items. The items were selected from a larger pool of items. Initial data was collected among a small group of students to eliminate suspect items. A subsequent test of the measure was run using 196 undergraduate students. The 5 item scale was selected based on inter-item correlations. Internal consistency reliability resulted in $\alpha = .962$. An exploratory factor analysis (EFA) of the five items produced a one-factor solution accounting for 83% of variance explained (Table 15).

TABLE 14
EMOTIONAL ATTACHMENT SCALE

No Love At All	1	2	3	4	5	6	7	A Strong Love
No Emotional Bond	1	2	3	4	5	6	7	A Strong Emotional Bond
Not Emotionally Connected	1	2	3	4	5	6	7	Emotionally Connected
Not Linked By Feelings	1	2	3	4	5	6	7	Linked By Feelings
No Feelings of Attachment	1	2	3	4	5	6	7	Strong Feelings of Attachment

TABLE 15
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR EMOTIONAL ATTACHMENT

Scale	Factor Loading	Item-Total Correlation
Emotional Attachment (EA)		
EA01	0.839	0.823
EA02	0.940	0.916
EA03	0.950	0.925
EA04	0.921	0.899
EA05	0.922	0.901
Eigen Value	4.344	
% of Variance	83.725	
Conbrach's alpha	0.962	

Statistics

Test of Main Effects and Moderation. For the test of the main effects of meness and co-production on the willingness to dispose of the object, I will look at the main effects in an ANOVA. I will test the interaction effect using *a priori* planned comparisons (Winer et al. 1991; Tybout and Sternthal 2001). I used planned comparisons because there is a possibility that an actual interaction effect may be hidden in a non-significant overall F-test (Tybout and Sternthal 2001). Then, what I propose is to test the mean differences for the cells of interest based on hypotheses 1 through 4.

Test of Process Mediation. In order to test if emotional attachment accounts for the effect of the predictors on the criterion, a series of requirements should be met. According to Baron and Kenny (1986), there should be an effect of the independent variable on the dependent variable. I test this effect by looking at the main effects in the ANOVA. However, Kenny, Kashy, and Bolger (1998) argued that the condition of a preexisting significant relationship between the independent variable and the dependent variable is not necessary to substantiate a mediation effect. Variation in the independent variable, however, *must* significantly account for variation in the mediator. Variation in the mediator *must* significantly account for variation in the dependent variable.

I test process mediation using an analysis of covariance (ANCOVA) adding the summated scale of emotional attachment as a covariate. When emotional attachment is controlled for as a covariate, I expect the covariate will be significantly related to the dependent variable and that the p-values for the planned comparison tests will inflate. If the p-values inflate to non-significance it is evidence of full mediation. If the p-values

inflate but remain significant, it is evidence of partial mediation. Either will be taken as support for H4.

Study 2

The purpose of study 2 is to test whether changing the participants focus from the object to the co-production process during the task mitigates the effect of EA. More specifically, I attempt to increase the level of task enjoyment by manipulating the autonomy given to the participant in the task and the creativity mood of the participant. As task enjoyment increases, it is expected to mediate the relationship between co-production and willingness to dispose of an object instead of EA. In the following sections I discuss: 1) an overview of the design, 2) the object, 3) the manipulations, 4) the participants, 5) the procedure, 6) the measures, and 7) the statistical procedures to test the hypotheses.

Design Overview

The study is a 2 (creativity: low vs. high) × 2 (autonomy: low vs. high) between subjects experimental design. As in study 1, the experiment was run in a controlled lab setting. The experiment consisted of participants decorating a mug. Undergraduate students were recruited in exchange for the mug.

Creativity, as suggested by previous literature (Sassenberg and Moskowitz 2005), was manipulated by a priming task. Specifically, high creativity was primed by having subjects briefly describe three situations when they had behaved creatively. In addition, participants in the high creativity condition were asked to complete a figural task in which they had to do unusual figures. It has been suggested that by encouraging

individuals to do creative work, it will activate their creativity mindset (Paulus and Yang 2000).

In contrast low creativity was primed by having participants briefly describe three situations where they had to do a repetitive task. In addition, participants were given a connect-the- dot task where they had to complete the perimeter of predetermined geometric figures.

Consistent with previous research (e.g., Dahl and Moreau 2007), autonomy was manipulated by showing or not showing the participants a finished product and telling them to match their decoration accordingly as to replicate it. That is, in the high autonomy condition, participants had to match the decoration of a given model mug. In the low autonomy condition participants were given the opportunity to decorate the mug the way they wanted.

After the completion of the mug, a questionnaire containing measures of EA, task enjoyment, willingness to dispose, and demographic questions such as age, gender, year in college, and ethnicity were given to each participant. The questionnaire was proctored by a different person in a different location to avoid social desirability bias. After the completion of the questionnaire, participants were dismissed.

The Object

The object that was co-produced was a coffee mug. The mug was plain white and the participants were given stickers of different kinds to decorate the mug. Mugs were chosen because mugs are common objects that are not commonly co-produced. Although the participant was not involved in manufacturing the mug, they had to finish the

production process by decorating it. Before the participants began the task, they were told that the mugs were incomplete and that they would complete the production process.

Manipulations

Creativity and autonomy were manipulated variables in study 2. Creativity, as suggested by previous literature (Sassenberg and Moskowitz 2005), was manipulated by a priming task. Autonomy was manipulated according to previous research procedures by restricting choices in the co-production task (Dahl and Moreau 2007). I describe each manipulation in turn.

Creativity Manipulation. Creativity was manipulated with a priming task. Specifically, high creativity was primed by having subjects briefly describe three situations when they had behaved creatively. In addition, participants in the high creativity condition were asked to complete a figural task in which they had to do unusual figures (see appendix B). It has been suggested that by encouraging individuals to do creative work, it will activate their creativity mindset (Paulus and Yang 2000).

In contrast low creativity was primed by having participants briefly describe three situations where they had to do a repetitive task. In addition, participants were given a connect-the-dot task where they had to complete the perimeter of predetermined geometric figures (see Appendix C). The manipulation check for creativity involved a perceived creativity scale (Kurtzberg 2005). See Table 16.

TABLE 16
PERCEIVED CREATIVITY SCALE

	Strongly Disagree						Strongly Agree
I felt that I was creative.	1	2	3	4	5	6	7
I did creative work.	1	2	3	4	5	6	7
I felt imaginative when I was doing the task.	1	2	3	4	5	6	7

I ran a pretest of the creativity manipulation. 49 undergraduate students participated in the pretest in exchange for extra credit in a large marketing class. I randomly assigned the participants to creativity conditions. 23 students were assigned to the low creativity condition and 26 were assigned to the high creativity condition. The perceived creativity scale showed good scale properties. All items loaded in one factor solution with an Eigen value of 2.671. The item loadings were .938, .961, and .931. The items showed item-to-total correlations of .862, .910, and .848 for items 1-3 respectively. In addition the scale showed acceptable reliability (Cronbach's alpha = .938). Thus, the scale was combined in a summated scale and this scale was used to check for the effectiveness of the creative manipulation.

I ran an ANOVA with the summated perceived creativity scale as the dependent variable and the categorical creative variable as the independent factor. The results show that there was a significant difference between the participants in the high (M = 4.205) vs. low (M = 2.217) creativity conditions for the summated perceived creativity scale ($F = 27.365$, $df = 1,48$, $p < .001$). Thus, the creativity manipulation was successful.

Autonomy Manipulation. Consistent with previous research (e.g., Dahl and Moreau 2007), autonomy was manipulated by the level of freedom given to the participants to make their own choices during the co-production of an object. For the low autonomy condition, participants were given a set of 10 different sticker designs. However, they were instructed to match the decoration of a model mug. The "role" mug was available and visible for each participant. For the high autonomy condition participants were free to choose from a stack of 10 different sticker sheets to decorate their mug. The effect of the autonomy manipulation was checked by using a four-item, nine point scale (Table 17) used by Dahl and Moreau (2007). The scale was administered after the co-production task.

The design of the "role" mug was chosen by pretesting three different designs. All designs had a similar number of stickers placed on the mug to keep a consistent level of difficulty. Also, the designs were gender neutral. Two designs had a seasonal topic (St. Patrick's day and Christmas), and one design had a pet topic (dog paws).

I ran a test to choose the design to be used for the low autonomy condition. 31 undergraduate students participated in the test in return for extra credit. All participants watched the three mugs in a random order and answered two questions after each mug presentation. First they answered "how much do you like the decoration?" and then they answered "how much do you identify with the decoration?" They reported their answers on a 1 (not at all) to 7 (very much) scale. As expected, there were not significant differences across designs. I chose the pet design due to the feasibility in finding enough material and cost efficiency (more mugs with fewer sticker sheets). Thus, the pet design was used in the manipulation pretest.

TABLE 17
MANIPULATION CHECK FOR AUTONOMY

	Low Extent								High Extent
To what extent did you feel free to make your own choices?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to express yourself?	1	2	3	4	5	6	7	8	9
To what extent did you feel controlled?	1	2	3	4	5	6	7	8	9
To what extent did you feel pressured?	1	2	3	4	5	6	7	8	9

I conducted two pretests for the autonomy manipulation because the autonomy scale used as manipulation check did not show good scale properties in the first pretest. In the first manipulation pretest, 39 undergraduate business students participated in exchange for extra credit. 20 students were in the low autonomy condition and 19 students were in the high autonomy condition. I checked for the dimensionality and reliability of the autonomy scale. The data shows that there are serious problems with the scale (see Table 18).

TABLE 18
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE AUTONOMY SCALE

Scale			Factor loadings		Item-Total Correlation
Autonomy Scale (AUTO)			Factor 1	Factor 2	
AUTO 01			0.960	0.001	0.496
AUTO 02			0.945	0.079	0.552
AUTO 03			-0.544	0.566	-0.279
AUTO 04			0.270	0.860	0.240
Eigen Value	2.184	1.067			
% of Variance	54.591	81.276			
Cronbach's alpha	0.381				

I cleaned the scale by deleting items with an item-total correlation under .50, one at a time. Two items hold together. It seems that the reverse worded items were the problem. The items AUTO 01 and AUTO 02 had a correlation of .963. I combined these two items and ran a univariate test of variance with the combined scale as the dependent variable and the condition as the discrete fixed factor (low vs. high autonomy). The analysis shows that there was a significant difference between the two groups on how autonomous they felt during the task ($F = 41.774$, $p < .001$, $df = 1,38$). Those participants in the high condition felt more autonomous (mean = 6.90) than the participants in the low autonomy condition (mean = 2.368).

In order to assess in a better way the manipulation check of autonomy, a new scale was created. The scale was created by choosing items from a pool of possible items to measure the extent of autonomy in making decisions during the co-production task. Five items shown in Table 19 were selected. These items include the two items that worked from the previous pretest.

TABLE 19
CORRECTED SCALE FOR AUTONOMY

	Low Extent								High Extent
To what extent did you feel free to make your own choices?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to express yourself?	1	2	3	4	5	6	7	8	9
To what extent did you do "your own thing"?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to communicate your thougths?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to express your feelings?	1	2	3	4	5	6	7	8	9

Before using this scale in the main study, a pretest of the new measure was conducted. Fifty undergraduate students participated in the pretest in return for extra

credit. Forty-eight cases were analyzed. Twenty-four participants were in the high autonomy condition and 24 were in the low autonomy condition. Due to cost and logistics, instead of decorating a mug, students in the high autonomy condition were asked to draw whatever they wanted on a sheet of paper. Participants in the low autonomy condition were asked to replicate a simple drawing of a house on a sheet of paper. Then, the participants answered the corrected scale for autonomy. Results show that this new measure has better properties than the previous one. The corrected scale has a Cronbach's alpha of 0.957, and all the items load in one factor as shown in Table 20.

I ran a univariate test to check if the manipulation was successful. I combined the five items in a summated scale as a dependent variable and the autonomy conditions as the fixed factor. There was a significant difference between the low and high conditions on the level of perceived autonomy ($F = 105.35$, $p < .001$, $df = 1,47$). The mean for the low autonomy condition was 2.283 and the mean for the high autonomy condition was 7.133. Therefore, the manipulation was successful and I used the corrected autonomy scale as the manipulation check for autonomy for the main study.

TABLE 20
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS FOR THE CORRECTED AUTONOMY SCALE

Scale		Factor loadings	Item-Total Correlation
Corrected Autonomy Scale (CAUTO)			
CAUTO 01		0.882	0.823
CAUTO 02		0.929	0.889
CAUTO 03		0.919	0.872
CAUTO 04		0.945	0.907
CAUTO 05		0.950	0.914
Eigen Value	4.281		
% of Variance	85.614		
Cronbach's alpha	0.957		

Participants

The participants in study 2 were 156 undergraduate students over the age of 18 at a large Mid-western university. The students were recruited from large marketing classes in exchange for the mug they co-produced and extra credit. I ensured that participants from study 1 did not participate in study 2. Also, the classes I used for the main experiment were not used before for any of the pretests.

Procedure

The experiment was run two days a week over a three week period. Participants registered for the day they would show up and the time. There were 4 times available running every half an hour from 3pm – 6pm. Four rooms were available, one for each condition. A separate location was given to complete the final questionnaire. Conditions were randomly assigned to rooms throughout the days and participants were randomly

assigned to one of the four available conditions at their appointment time. I chose to have from 1 to 5 participants at a time so I could control for group effects in the performance of the task. When there was more than one person in the group they were isolated in work stations where they could not see each other's work. The work stations were faced towards the outside (wall or window) so they did not see each other.

Upon arrival, subjects were assigned to one of the four rooms. In the rooms, the participants were seated in their individual cubicles provided with a chair, a desk, the necessary materials to complete the task, a brown bag, and a sheet of paper with detailed instructions of what they had to do. Participants were asked to fill the priming task. After completing the priming task, subjects completed a short scale containing the manipulation check and then moved on to the cup decoration task (Appendix B).

In order to ensure that they knew what to do, the experimenter waited for the completion of the priming task so everybody started decorating the mug at the same time. The reason is that the experimenter read the instructions out loud along with the participants. After reading the instructions, participants engaged in the mug decoration task. When the decoration of the mug was completed, participants were instructed to raise their hand and the experimenter would place the mug in a brown bag so when they exited the room nobody could see their mug.

Once they went outside, the greeter in the hall would provide the subjects with the final questionnaire and a location to fill it.

Measures

The manipulation check for creativity was collected prior to the main decoration task. The remaining measures were provided in a questionnaire handed to the students

after they were moved to a separate location (Appendix D). The instrument included measures for autonomy, task enjoyment, EA, social desirability, willingness to dispose, and general demographics. Task enjoyment was measured by using a six item, nine-point scale (Table 21) used by Dahl and Moreau (2007). All other measures were identical to those used in study one. In addition, I collected observational measures such as body language, actions toward the mug, and ability to make the mug.

TABLE 21
TASK ENJOYMENT SCALE

	To a low Degree								To a high Degree
To what degree did you enjoy the task?	1	2	3	4	5	6	7	8	9
To what degree did you have fun?	1	2	3	4	5	6	7	8	9
To what degree do you consider that the task was satisfying?	1	2	3	4	5	6	7	8	9
To what degree do you consider that the task was fun?	1	2	3	4	5	6	7	8	9
To what degree did you feel frustrated?	1	2	3	4	5	6	7	8	9
To what degree did you feel annoyed?	1	2	3	4	5	6	7	8	9

Statistics

To test for hypothesis 5 which proposes an interaction effect between autonomy and creativity, I ran a two-way ANOVA with autonomy (low vs. high) and creativity (low vs. high) as the independent factors and a summated scale for task enjoyment (TE) as the dependent variable. To test for hypothesis 6, I tested for process moderated mediation using task enjoyment and emotional attachment as mediators. I expect a main effect of autonomy on WTD. In addition, I expect a main effect of autonomy on both EA and TE. Further, I expect that creativity will play a moderating role in the potency of each of the mediators. For instance, I expect a reduction of the effect of EA on WTD and

an increase of the effect of TE on WTD mediation due to the moderator. I followed the procedures suggested by Muller, Judd and Yzerbyt (2005).

CHAPTER V

RESEARCH FINDINGS

This chapter is organized into two sections. The first section describes the findings from study one and the second section describes the findings for study two. Each section will consist of four subsections. The first subsection in each study consists of a description of the sample characteristics. The second subsection includes an assessment of the quality of the measures used in the study. The third subsection in each study presents the results of the manipulation checks. Finally, the last subsection discusses the hypothesis testing, for instance, in study one the direct effects of co-production and meness on willingness to dispose are assessed. In addition, the interaction between meness and co-production on WTD and its paired-comparisons are tested. Further, the mediation of emotional attachment is tested. In study two, the last section explores the manipulation checks, the interaction effect of creativity and autonomy on task enjoyment, and process mediation using task enjoyment and emotional attachment is examined.

Findings for Study 1

Next, I describe the findings for study 1. I describe the sample, the measures used in the model, and I test the manipulation checks. Finally, I test the hypotheses proposed in the study.

Sample Characteristics

Before analyzing the data, I used box plots and scatter plots to check the distributions, for outliers, and missing data. As a result, six out of 130 responses were excluded from the final data set. Respondents in study one were asked to provide information about their age, nationality, year in school, their experience with Build-A-Bear, and their experience in co-production.

As a reminder, I chose to use only female participants in this study. All respondents were above 18 years old with 91.1% being between 18-23 years old. Most respondents (88.7%) reported American citizenship. The students in the sample were sophomores (13.7%), juniors (41.1%), and seniors (39.5%). More than half (57%) of the respondents had been to Build-A-Bear before. Of those who had been to Build-A-Bear, 32.4 % had not made a bear before, 66.2% of the participants had done from 1-3 teddy bears, and 1.4% had made from 4-7. In addition, 95.9% of the participants had co-produced at least once in their life. All participants were randomly assigned to one of four conditions. A descriptive check by condition shows a consistent distribution of demographics across conditions.

Measurement Quality Assessment

I assessed the quality of the measures for the main constructs which are emotional attachment (EA) and willingness to dispose (WTD). Co-production and meness were manipulated and the analyses of the manipulation checks are shown in a separate subsection before the hypothesis tests. Different analyses were run for EA, which is a reflective measure, and WTD, which is a formative measure.

The EA scale is a reflective measure so it was evaluated for construct validity through exploratory factor analysis (EFA) and for internal consistency reliability via item-to-total correlations and Cronbach's alpha. I fit a principle component factor model using SPSS 16.0 to capture whether the construct was valid and to check the factor loadings. The number of factors was determined by employing the criterion of Eigen value higher than 1. In addition, only factor loadings greater than 0.5 were considered. Next, internal consistency was tested by a reliability analysis in SPSS 16.0 via Cronbach's alpha and item-to-total correlations (Nunnally and Bernstein 1994). The criterion of item-to-total correlations higher than .50 was used to determine retention of items in the scale. If an item had an item-to-total correlation lower than .50, the item was deleted and the exploratory factor analysis as well as the internal consistency analysis was re-computed. The final items were then selected. Finally, the unidimensionality of the construct was assessed by running a confirmatory factor analysis (CFA) on the reflective measures using LISREL 8.80 (Jöreskog and Sörbom 2006). For the formative measure, the scale index of WTD was constructed and validated via procedures adapted from those suggested by Diamantopolous and Winklhofer (2001) which I discuss later in this section. Next, I present the results for the EFA and reliability analysis for the EA measure.

Emotional Attachment (EA). The analysis for this construct shows that a one-factor solution was obtained with an Eigen value of 4.482 and 89.64 percent of the variance explained. All items loaded in one factor with loadings higher than 0.921. The Cronbach's alpha was 0.971. The results are shown in Table 22.

Next, as suggested by Churchill (1979) and Gerbing and Anderson (1988), unidimensionality and convergent validity were assessed by means of a confirmatory factor analysis using LISREL 8.80 (Jöreskog and Sörbom 2006). To show convergent validity it is necessary that the results from the CFA show satisfactory model fit and significant factor loadings. I entered the EA scale with its five items. I examined the factor loadings, modification indices, and overall model fit.

The model fit indicators were as follows: Chi-Square of 52.96 (P=0.00), goodness of fit index (GFI) = 0.83, adjusted goodness of fit index (AGFI) = 0.49, normed fit index (NFI) = 0.94, non-normed fit index (NNFI) = 0.90, comparative fit index (CFI) = 0.95. The results showed modification indices higher than 10 with the highest modification index being 61.37 between EA04 and EA05 of Theta Delta.

After attempting corrections in the model, I decided to drop EA03 and run the analysis again. The results of the CFA without EA03 in the model show the following fit statistics: Chi-Square of 22.68 (P=0.00), goodness of fit index (GFI) = 0.92, adjusted goodness of fit index (AGFI) = 0.59, normed fit index (NFI) = 0.96, non-normed fit index (NNFI) = 0.89, comparative fit index (CFI) = 0.96. The second model had a better fit than the first one. In addition, a chi-square difference test was performed between the two models. The test shows that there is a significant change in chi-square as a result of dropping EA03 ($\chi^2\Delta = 30.28$, $df = 3$, $p<.001$). Thus, item EA03 was removed from further analyses.

TABLE 22
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE EMOTIONAL ATTACHMENT SCALE

Scale		Factor loading	Item-Total Correlation
Emotional Attachment Scale (EA)			
EA 01		0.921	0.879
EA 02		0.951	0.923
EA 03		0.957	0.932
EA 04		0.951	0.921
EA 05		0.953	0.924
Eigen Value	4.482		
% of Variance	89.640		
Cronbach's alpha	0.971		

Convergent validity was assessed for the EA scale. Since each item demonstrated a significant loading on the construct, there is evidence of convergent validity (Fornell and Larcker 1981). All the analyses provide evidence that the scale is valid and reliable. A summated scale with the four remaining items was computed and used in subsequent analyses.

Willingness to Dispose. Willingness to dispose (WTD) was measured by a seven item formative scale. Four items were taken from Walker (2006) and three additional items were included to fully cover the domain of the construct as required by a formative measure (Diamantopolous and Winklhofer 2001). Since WTD is a formative measure, it is inappropriate to perform tests of internal consistency and reliability (Bollen and Lennox 1991). I followed the procedures suggested by Diamantopolous and Winklhofer (2001) to assess the measurement properties of the index scale.

As suggested by Diamantopolous and Winklhofer (2001) I validated the index using a validation measure. The validation procedure consists in linking the index to other constructs with which it is expected to be linked and there is a theoretical or logical reason why they should be related. In my study, I collected a measure of anticipated regret. I expect a negative relationship between anticipated regret and WTD such that the more an individual is willing to dispose of an object, the less the regret they will report. On the contrary, when a person reports lower willingness to dispose, they are more likely to report higher levels of anticipated regret. The anticipated regret scale was analyzed and purified as follows.

Anticipated Regret (REG). Anticipated regret is the scale that was used to validate the formative measure of WTD. First, the five items suggested by Massi Lindsey (2005) were entered in a principle component factor analysis. One item (reverse coded) was removed due to low factor loading (0.068) and low item-total correlation (0.045). Scale items are shown in Table 12. All of the other factor loadings exceeded .839 and had item-total correlations above .668. A second analysis was run with only four items. This resulted in a one factor solution with an Eigen value of 2.978 and Cronbach's alpha of 0.885 as shown in Table 23.

TABLE 23
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE ANTICIPATED REGRET SCALE

Scale		Factor loading	Item-Total Correlation
Anticipated Regrate Scale (REG)			
REG 01		0.838	0.714
REG 02		0.879	0.775
REG 04		0.869	0.760
REG 05		0.864	0.752
Eigen Value	2.978		
% of Variance	74.440		
Cronbach's alpha	0.885		

Next, I made a summated scale from the remaining four items in the scale and I correlated the seven items of WTD to the summated scale. Only WTD01 is negatively related at a significant level of 0.01 (-.379). This is an indication that WTD01 may be the one item solution for the index.

Before taking WTD01 as the only predictor, I ran other analyses to check for the appropriateness of the item. The reason to do the analyses is that in terms of index construction, it is of utmost importance to cover the breadth of the domain (Nunnally and Bernstein 1994). Thus, excluding all the other variables in a formative measure would exclude part of the construct itself.

I ran a multivariate analysis of variance with WTD items as dependent variables and meness and co-production as independent variables. I checked for the pattern of the relationship between the DV's and the IV's by looking at the interaction effect graphs. There was a consistent pattern for the relationships except for WTD01.

I faced the trade-off of choosing a single indicator as the DV for the study or choosing a six-item index that would cover more of the breadth of the construct. I chose to use the six item index for the hypotheses testing. I took an average as the index instead of calculating the index based on weighted beta coefficients since the items were not significant predictors of the criterion validation variable.

Manipulation Checks

Before doing the hypothesis tests, I analyzed the effectiveness of the manipulations for meness and co-production. I used the manipulation check scales that were selected from the pretests. One hundred and twenty-four cases were used in the analyses.

Meness Manipulation Check. I tested the effectiveness of the meness manipulation using sixty-three participants in the low meness condition and sixty-one in the high meness condition.

For checking the success of the meness manipulation, I ran a two-way ANOVA using the summated scale of meness as the dependent variable, and meness (low, high) and co-production (low, high) as the independent factors. I also checked for the interaction effect of meness and co-production. The meness items showed good scale properties as shown in Table 24.

Results indicate that participants in the low meness condition reported a level of meness (M = 3.122) that is significantly lower (F = 8.974, *df* = 1,123, p = .003) than the level of meness reported by the participants in the high meness condition (M = 4.095). Further, the effects of co-production (F = 1.841 *df* = 1,123, p = .177) and the interaction

between meness and co-production (F = .101, *df* = 1,123, p = .751) on the summated scale of meness were not significant. Thus, the manipulation of meness was successful.

TABLE 24
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE MENESS SCALE

Scale		Factor loading	Item-Total Correlation
Meness Scale (ME)			
ME 01		0.944	0.899
ME 02		0.973	0.951
ME 03		0.923	0.867
ME 04		0.967	0.940
Eigen Value	3.627		
% of Variance	90.670		
Cronbach's alpha	0.965		

Co-production Manipulation Check. In order to test for the success of the co-production manipulation I used data from sixty-three participants in the high co-production condition and sixty-one in the low co-production condition.

The success of the co-production manipulation was assessed by doing a two-way ANOVA using the co-production summated scale used in the pretests as the dependent variable and co-production (low, high) and meness (low, high) as the independent variables. The properties of the co-production scale were satisfactory as shown in Table 25.

TABLE 25
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE CO-PRODUCTION SCALE

Scale		Factor loading	Item-Total Correlation
Co-production Scale (COP)			
COP 01		0.896	0.774
COP 02		0.953	0.887
COP 03		0.915	0.810
Eigen Value	2.548		
% of Variance	84.944		
Cronbach's alpha	0.911		

The results show that participants in the low co-production condition reported a level of co-production (M = 2.285) significantly lower (F = 74.168, *df* = 1,123, p < .001) than the participants in the high co-production condition (M = 4.909). There was not a significant difference across meness conditions on the summated co-production scale (F = .061, *df* = 1,123, p = .805). The interaction between co-production and meness on the summated co-production scale was not significant (F = .246, *df* = 1,123, p = .621). Thus, the manipulation of co-production was successful.

The results of the manipulation check tests show that both manipulations (meness and co-production) were successful and now I continue to the hypothesis testing.

Hypothesis Testing

Following the previous analyses, the items comprising each construct were selected. Missing data was replaced by inputting the mean response values of a construct. For the reflective scale of Emotional Attachment (EA), I created a summated

scale. For Willingness to Dispose (WTD) I created an averaged index from six items. These constructs were used to test the hypotheses.

For the tests of hypotheses 1, 2 and 3, I ran a two-way Analysis of Variance (ANOVA) using SPSS with meness with two levels (low vs. high) and co-production with two levels (low vs. high) as independent factors and the index of WTD as the dependent variable. One hundred and twenty-four usable observations were used. Participants were randomly assigned to four conditions: high meness and high co-production (30), high meness and low co-production (31), low meness and high co-production (31), and low meness and low co-production (32).

I ran three different analyses. I ran tests using the six-item index of WTD. Then I re-ran the tests using the single item indicator (WTD01) as the dependent variable. Finally, I analyzed the data using an equally weighted measure of all the items of WTD.

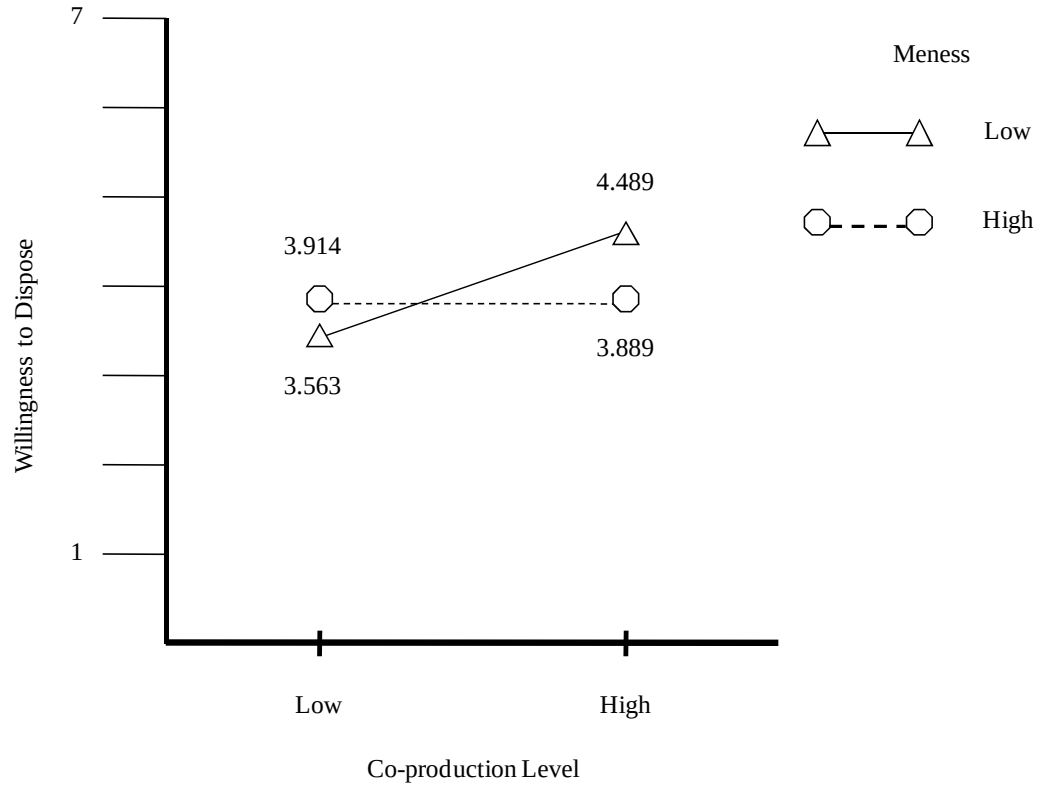
Six-item WTD as DV. Hypothesis 1 suggested that when co-production is high, there will be a significantly lower willingness to dispose (WTD) of the object compared to when co-production is low. Examining the main effect of co-production on WTD it shows that participants in the high co-production condition reported a mean WTD of 4.189 compared to a mean WTD of 3.738 reported by the low co-production group. The difference is not significant at $\alpha = .05$, but significant at $\alpha = .10$ ($F = 2.829$, $df = 1,23$, $p = .095$). However, the results are reversed from those proposed by the hypothesis; individuals reported a lower willingness to dispose in the low vs. high co-production group.

Hypothesis 2 proposed that the willingness to dispose of the object is lower when meness is high compared to low. To test this hypothesis I analyzed the main effect of

meness in the ANOVA model. The results show that there is not a significant difference (F = .216, *df* = 1, 123, p =. 643) between the level of WTD reported in the low meness condition (M = 4.026) compared to the high meness condition (M = 3.901). This result does not provide support for hypothesis two.

Hypotheses 3 argued an interaction effect between meness and co-production in determining WTD. The ANOVA results show that the interaction term was not significant at the α = .05 level but significant at the α = .10 providing partial evidence of an interaction effect (F = 7.018, *df* = 1, 123, p =.078). There is partial support of an interaction effect, however, the relationships are not as predicted, see Figure 11. More detail is provided in subsequent analyses.

FIGURE 11
PARTIAL INTERACTION EFFECT BETWEEN MENESS
AND CO-PRODUCTION ON WTD



Further analysis was conducted via *a priori* planned comparisons (Winer et al. 1991; Tybout and Sternthal 2001) to test hypotheses 3a and 3b. I used planned comparisons because there is a possibility that an actual interaction effect may be hidden in a non-significant overall F-test (Tybout and Sternthal 2001).

Hypothesis 3a suggested that when co-production is high, the willingness to dispose of the object will be lower when meness is high compared to low. The results from the pairwise comparisons show that when co-production is high and meness is high, participants reported an average level of WTD of 3.889 compared to 4.489 reported by the high co-production, low meness condition. The difference is not significant ($p = .119$).

Hypothesis 3b proposed that when meness is high, the willingness to dispose of the object will be significantly lower in the high co-production condition than in the low co-production condition. Examining the pairwise comparions, the results show that participants in the high meness high co-production condition reported an average level of WTD of 3.889 versus 3.914 reported by the high meness low co-production group. The difference is not significant ($p = .948$), thus not supporting H3b.

Finally, hypothesis 4 suggested that emotional attachment (EA) accounts for the effect of the predictors on the criterion, that is, EA fully mediates the relationship between meness, co-production, and willingness to dispose. A series of requirements should be met in order to test for these relationships. According to Baron and Kenny (1986), there should be an effect of the independent variable on the dependent variable. The main effects of neither meness nor co-production on WTD were significant. However, Kenny et al. (1998) argued that the condition of a preexisting significant

relationship between the independent variable and the dependent variable is not necessary to substantiate a mediation effect. Variation in the independent variable, however, *must* significantly account for variation in the mediator. Variation in the mediator *must* significantly account for variation in the dependent variable.

I ran an ANOVA with EA as the dependent variable and meness and co-production as the dependent variables to test for variation of the independent variables on the mediator. The results show that the main effects of meness (F = .872, *df* = 1,123, p = .352), co-production (F = .346, *df* = 1,123, p = .557), or its interaction (F = .554, *df* = 1,123, p = .458) are not significant predictors of EA. This violates the requirements for tests for mediation. In addition EA is not significantly correlated to WTD.

Even violating the requirements for mediation, I tested process mediation using an analysis of covariance (ANCOVA) adding for the summated scale of emotional attachment as a covariate. When emotional attachment is controlled for, it is not significant (F = .303, *df* = 1,123, p = .583), but the interaction effect between meness and co-production strengthens (F = 3.253, *df* = 1,123, p = .074). This result may suggest that EA is a covariate. Thus, EA is not found to be a mediator and H4 is not supported.

WTD01 as DV. I also tested the hypotheses using WTD01 as the dependent variable. The item was "How likely are you to throw the pillow away?" The analyses used where similar to those in the previous section.

Hypothesis 1 suggested that when co-production is high, there will be a significantly lower willingness to dispose of the object compared to when co-production is low. Examining the main effect of co-production on WTD01 it shows that participants in the high co-production condition reported a mean WTD of 4.012 compared to a mean

WTD of 3.477 reported by the low co-production group. The difference is not statistically significant (F = 1.271, *df* = 1,23, p = .262). Thus, H1 is not supported.

Hypothesis 2 proposed that the willingness to dispose of the object is lower when the extent of meness is high compared to low. To test this hypothesis I analyzed the main effect of meness in an ANOVA model. The results show that there is not a significant difference (F = .103, *df* = 1, 123, p =.748) between the level of WTD01 reported by the low meness condition (M = 3.670) and the high meness condition (M = 3.825). This result does not provide support for hypothesis two.

Hypotheses 3 argued an interaction effect between meness and co-production in determining WTD01. The ANOVA results show that the interaction term was not significant (F = .025, *df* = 1, 123, p =.875).

Further analysis was conducted via *a priori* planned comparisons (Winer et al. 1991; Tybout and Sternthal 2001) to test hypotheses 3a and 3b. Hypothesis 3a suggested that when co-production is high, the willingness to dispose of the object will be lower when meness is high compared to low. The results from the pairwise comparisons show that when co-production is high and meness is high, participants reported an average level of WTD01 of 4.133 compared to 3.903 reported by the high co-production, low meness condition. The difference is not significant (p = .737).

Hypothesis 3b proposed that when meness is high, the willingness to dispose of the object will be significantly lower in the high co-production condition than in the low co-production condition. Examining the pairwise comparisons, the results show that participants in the high meness high co-production condition reported an average level of

WTD of 4.133 versus 3.516 reported by the high meness low co-production group. The difference is not significant (p = .369), thus not supporting H3b.

Finally hypothesis 4 suggested that emotional attachment (EA) accounts for the effect of the predictors on the criterion, that is, EA fully mediates the relationship between meness and co-production and willingness to dispose. A series of requirements should be met in order to test for these relationships. According to Baron and Kenny (1986), there should be an effect of the independent variable on the dependent variable. The main effects of neither meness nor co-production on WTD01 were significant. However, Kenny et al. (1998) argued that the condition of a preexisting significant relationship between the independent variable and the dependent variable is not necessary to substantiate a mediation effect. Variation in the independent variable, however, *must* significantly account for variation in the mediator. Variation in the mediator *must* significantly account for variation in the dependent variable.

From the first analysis section I know that neither meness nor co-production is related to EA. However, I tested if EA is significantly correlated to WTD01. This time the results show that EA is negatively correlated to WTD01 (r = -.365) and it is significant at the $\alpha = .01$ level.

Even violating the requirements for mediation, I tested process mediation using an analysis of covariance (ANCOVA) adding for the summated scale of emotional attachment as a covariate. When emotional attachment is controlled for, EA is significant (F = 19.934, *df* = 1,123, p = .000), but the interaction effect between meness and co-production is not significant (F = .223, *df* = 1,123, p = .638). Also the main effects of meness (F = .524, *df* = 1,123, p = .471) and co-production (F = 2.105, *df* = 1,123, p =

.149) on WTD01 are not significant. Thus, the analysis on WTD01 as a single dependent variable also shows that EA is not found to be a mediator and H4 is not supported.

All Items of WTD as DV. Finally, I ran the analysis with an equally weighted index of willingness to dispose (WTDALL). Hypothesis 1 suggested that when co-production is high, there will be a significantly lower willingness to dispose (WTDALL) of the object compared to when co-production is low. Examining the main effect of co-production on WTDALL it shows that participants in the high co-production condition reported a mean WTDALL of 4.165 compared to a mean WTDALL of 3.701 reported by the low co-production group. The difference is not significant at .05, but significant at .10 ($F = 3.388$, $df = 1,23$, $p = .068$). However, the results show a reversed result from that proposed by the hypothesis so that individuals reported a lower willingness to dispose in the low vs. high co-production group.

Hypothesis 2 proposed that the willingness to dispose of the object is lower when the extent of meness is high compared to low. To test this hypothesis I analyzed the main effect of meness in the ANOVA model. The results show that there is not a significant difference ($F = .113$, $df = 1, 123$, $p = .738$) between the level of WTDALL reported by the low meness condition ($M = 3.975$) and the high meness condition ($M = 3.890$). This result does not provide support for hypothesis two.

Hypotheses 3 argued an interaction effect between meness and co-production in determining WTDALL. The ANOVA results show that the interaction term was not significant ($F = 2.484$, $df = 1, 123$, $p = .118$).

Further analysis was conducted via *a priori* planned comparisons (Winer et al. 1991; Tybout and Sternthal 2001) to test hypotheses 3a and 3b

Hypothesis 3a suggested that when co-production is high, the willingness to dispose of the object will be lower when meness is high compared to low. The results from the pairwise comparisons show that when co-production is high and meness is high, participants reported an average level of WTDALL of 3.924 compared to 4.406 reported by the high co-production, low meness condition. The difference is not significant ($p = .182$).

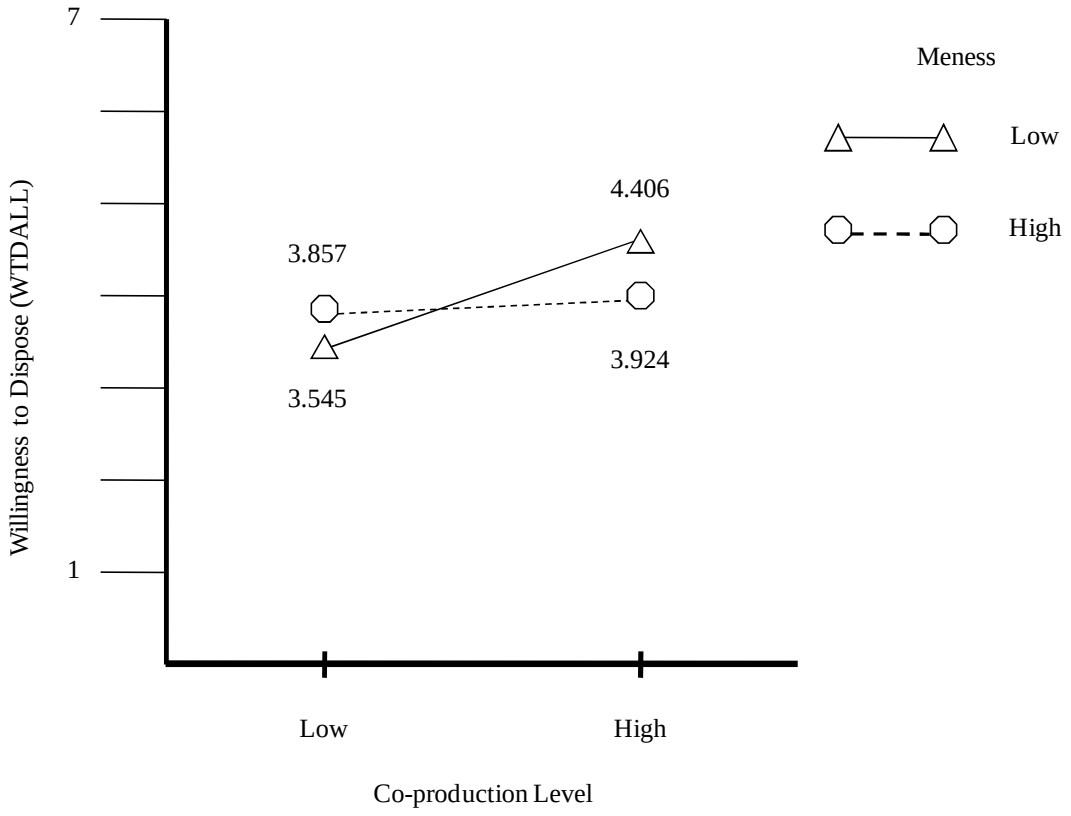
Hypothesis 3b proposed that when meness is high, the willingness to dispose of the object will be significantly lower in the high co-production condition than in the low co-production condition. Examining the pairwise comparisons, the results show that participants in the high meness high co-production condition reported an average level of WTDALL of 3.924 versus 3.857 reported by the high meness low co-production group. The difference is not significant ($p = .853$), thus not supporting H3b.

Pairwise comparisons show, however, that there was an interaction effect between co-production and meness only for the low meness condition. That is, individuals in the low meness condition and low co-production reported a mean WTDALL of 3.545 compared to 4.406 from the low meness high co-production group. This difference is significant ($F = 5.932$, $df = 1,120$, $p = .016$). This finding suggests that individuals in the low meness condition were more willing to dispose of the object when they engaged in hands-on participation (see Figure 12). I will expand more on this issue in the discussion section.

Finally hypothesis 4 suggested that emotional attachment (EA) accounts for the effect of the predictors on the criterion, that is, EA fully mediates the relationship between meness and co-production and willingness to dispose. A series of requirements

should be met in order to test for these relationships. According to Baron and Kenny (1986), there should be an effect of the independent variable on the dependent variable. The main effects of neither meness nor co-production on WTDALL were significant. However, Kenny et al. (1998) argued that the condition of a preexisting significant relationship between the independent variable and the dependent variable is not necessary to substantiate a mediation effect. Variation in the independent variable, however, *must* significantly account for variation in the mediator. Variation in the mediator *must* significantly account for variation in the dependent variable.

FIGURE 12
INTERACTION EFFECT BETWEEN MENESS
AND CO-PRODUCTION ON WTDALL



I know from previous analysis that neither meness nor co-production is related to EA. In addition, EA was not significantly correlated to WTD.

Even violating the requirements for mediation, I tested process mediation using an analysis of covariance (ANCOVA) adding for the summated scale of emotional attachment as a covariate. When emotional attachment is controlled for as a covariate, it is not significant ($F = .391$, $df = 1,123$, $p = .533$). Thus, EA is not found to be a mediator and H4 is not supported. Further discussion will be provided in the next chapter for the possible causes of these disturbing results.

Findings for Study 2

I organize the presentation of the findings of study 2 in four subsections. The first subsection talks about the sample characteristics. The second subsection includes an assessment of the measures used in the model. The third subsection presents an analysis of the manipulation checks. Finally, I test the hypotheses proposed in the study.

Sample Characteristics

Before analyzing the data, I used box plots and scatter plots to check the distributions, for outliers, and missing data. One hundred and thirty-nine out of one hundred and fifty-six cases were held for further analysis. There were 35 participants in the high creativity and high autonomy condition, 34 in the high creativity and low autonomy condition, 34 in the low creativity and high autonomy condition, and 36 participants in the low creativity and low autonomy condition. Respondents in study 2 were asked to report their gender, age, nationality, year in school, their experience with Build-A-Bear, and their experience with co-production.

All the respondents were above 18 years of age with 94.2% being between 19-23 years old. Female participants accounted for 43.9% and 56.1% were males. Most of the respondents (95%) claimed to be American. The respondents were freshmen (18%), sophomores (36.7%), and seniors (44.6%). Only one respondent identified as a graduate student. Less than half of the respondents (44.6%) said that they had been to Build-A-Bear before. From those who had been to the teddy bear co-production store, 53% had made at least one teddy bear for themselves. In addition, 91.4% of the participants had had some experience with co-production before. The respondents were randomly assigned to conditions and a descriptive check shows that the respondents prove similar characteristics across conditions.

Measurement Quality Assessment

The key measures for study 2 were emotional attachment (EA), task enjoyment (TE) and willingness to dispose (WTD). Creativity and autonomy were manipulated and the measures of the manipulation checks are evaluated in the manipulation check section before the hypotheses tests. Emotional attachment and task enjoyment were measured as reflective scales and WTD was evaluated as a formative scale. The procedures used to assess the validity and the reliability of the reflective scales was the same procedure used in study 1. For the formative measure, recommended procedures by Diamantopolous and Winklhofer (2001) were followed. Next I present the results for the exploratory factor analysis (EFA) and reliability analyses of the reflective scales.

Emotional Attachment (EA). The results from the EFA show a one factor solution with an Eigen value of 4.520 and 90.407 percent of the variance explained. All items

loaded in one factor with all the item loadings higher than 0.908. The Cronbach's alpha was 0.973. The results are shown in Table 26.

TABLE 26
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE EA SCALE STUDY 2

Scale		Factor loading	Item-Total Correlation
Emotional Attachment Scale (EA)			
EA 01		0.909	0.861
EA 02		0.968	0.950
EA 03		0.965	0.944
EA 04		0.954	0.925
EA 05		0.957	0.931
Eigen Value	4.520		
% of Variance	90.407		
Cronbach's alpha	0.973		

Next, following the same procedure as in study 1 a confirmatory factor analysis was run for the EA scale. The model fit indicators were as follows: Chi-Square of 38.98 (P=0.00), 5 degrees of freedom, goodness of fit index (GFI) = 0.90, adjusted goodness of fit index (AGFI) = 0.70, normed fit index (NFI) = 0.96, non-normed fit index (NNFI) = 0.94, comparative fit index (CFI) = 0.97. The results showed modification indexes higher than 10 with the highest being 24.74 between EA04 and EA05 of Theta Delta. After attempting corrections in the model and consistent with study 1, item EA03 was excluded from the model. A model with 4 indicators was run and compared to the first model using a chi square difference test. The results of the CFA without EA03 in the model show the following fit statistics: Chi-Square of 24.78 (P=0.00), goodness of fit

index (GFI) = .91, adjusted goodness of fit index (AGFI) = 0.57, normed fit index (NFI) = .96, non-normed fit index (NNFI) = .89, comparative fit index (CFI) = .96. The second model had a better fit than the first one and there were not modification indexes higher than 10. In addition, a chi-square difference test was performed between the two models. The test shows that there is a significant change in chi-square as a result of dropping EA05 ($\chi^2\Delta = 14.2$, $df = 3$, $p<.005$). Thus, item EA03 was removed from further analyses. A summated scale was formed with the remaining four items for subsequent analyses.

Task Enjoyment (TE). Task enjoyment was measured by using a six item, nine-point scale (Table 21) used by Dahl and Moreau (2007). The EFA results show a two factor solution as shown in Table 27. Eigen values were 4.258 and 1.285 respectively. Eigen values higher than 1 were taken to choose the number of factors. TE05 and TE06, which were reversed coded, are problematic with differently signed loadings on the second factor and a high of .686 loading in the first factor.

TABLE 27
EXPLORATORY FACTOR ANALYSIS AND
RELIABILITY ANALYSIS FOR THE TE SCALE

Scale			Factor loadings		Item-Total Correlation
Task Enjoyment Scale (TE)			Factor 1	Factor 2	
TE 01			0.931	-0.235	0.852
TE 02			0.934	-0.244	0.855
TE 03			0.927	-0.215	0.849
TE 04			0.940	-0.259	0.861
TE 05			0.554	0.786	0.492
TE 06			0.686	0.662	0.632
Eigen Value	4.258	1.285			
% of Variance	70.965	92.389			
Cronbach's alpha		0.911			

I looked at the item-to-total correlations for further scale purification. I deleted TE05 from the scale since it had an item-to-total correlation lower than .50 and re-ran the analysis. TE06 then showed to have an item-to-total correlation lower than .50 so it was also excluded from the scale. Finally, the four item solution was adequate. The results are shown in Table 28. As the table shows, the Eigen value was 3.709 with 92.736 of the variance explained. Cronbach's alpha was 0.974 and all factor loadings were higher than 0.950. Thus I created a four item summated scale for use in further analyses.

TABLE 28
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS FOR THE TE SCALE (4 ITEMS)

Scale		Factor loading	Item-Total Correlation
Task Enjoyment Scale (TE)			
TE 01		0.960	0.929
TE 02		0.966	0.938
TE 03		0.951	0.914
TE 04		0.975	0.954
Eigen Value	3.709		
% of Variance	92.736		
Cronbach's alpha	0.974		

Willingness to Dispose. As in study 1, willingness to dispose (WTD) was measured by a seven item formative scale. Four items were taken from Walker (2006) and three additional items were included to fully cover the domain of the construct as required by a formative measure (Diamantopolous and Winklhofer 2001). Since WTD is a formative measure, it is inappropriate to perform tests of internal consistency and reliability (Bollen and Lennox 1991). I followed the procedures suggested by

Diamantopolous and Winklhofer (2001) to assess the measurement properties of the index scale.

The validation of the measure consists of linking the index to other constructs with which it is expected to be linked and there is a theoretical or logical reason why they should be related. In my study I collected a measure on anticipated regret. As I noted before, I expect a negative relationship between anticipated regret and WTD. The anticipated regret scale was analyzed and purified as follows.

Anticipated Regret (REG). Anticipated regret (REG) is the scale that was used to validate the formative measure of WTD. First, the five items suggested by Massi Lindsey (2005) were entered in a principle component factor analysis. One item (reverse coded) was removed because it showed a low factor loading (0.157) and low item-total correlation (0.07). All other factor loadings exceeded .845 and had item-total correlations above .683. A second analysis was run with only four items. EFA of the remaining items resulted in a one factor solution with an Eigen value of 3.118 and Cronbach's alpha of 0.903 as shown in Table 29.

TABLE 29
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY
ANALYSIS FOR REG SCALE STUDY 2

Scale		Factor loading	Item-Total Correlation
Anticipated Regrate Scale (REG)			
REG 01		0.845	0.741
REG 02		0.909	0.837
REG 04		0.870	0.754
REG 05		0.905	0.815
Eigen Value	3.118		
% of Variance	77.944		
Cronbach's alpha	0.903		

Next, I made a summated scale from the remaining four items in the scale and I correlated the seven items of WTD to the summated Anticipated Regret scale. WTD01, WTD04 and WT06 were negatively related. WTD01 had a significant correlation of -.286 at the .01 level. WTD04 had a significant correlation of -.177 at the .05 level, and WTD06 had a significant correlation of -.194 at the .05 level. Next I ran a linear regression analysis with the summated scale of REG as the dependent variable and the three significant items as the predictors. Only WTD01 and WTD06 were significant predictors. Then, a final regression equation with only WTD01 and WTD06 was run in order to obtain the standardized coefficients. The standardized coefficients were -.278 for WTD01 (t = -3.455, p = .001), and -.183 for WTD06 (t = -.265, p = .025). For easiness of interpretation, the standardized beta coefficients were multiplied by -1 in order to obtain positive numbers. Thus, the index for WTD was constructed as follows:

WTD = .278*WTD01 + .265*WTD06. However, similar to the analysis of study 1, I also test the hypotheses using an overall measure of willingness to dispose (WTDALL).

Manipulation Checks

Before doing the hypothesis tests, I analyzed the effectiveness of the manipulations for creativity and autonomy. I used the manipulation check scales that were selected from the pretests. One hundred and thirty-nine cases were used with 70 participants in the low creativity condition and 69 in the high creativity condition, 70 in the high autonomy condition and 69 in the low autonomy condition.

In order to check the success of the creativity manipulation, I used a summated scale of the perceived creativity scale. The perceived creativity items showed good scale properties as shown in Table 30. The scale items loaded on one factor in an exploratory factor analysis with the minimum loading of .913, and showed a reliability of .940.

I ran a two-way ANOVA using the summated scale of perceived creativity as the dependent variable and creativity (low, high) and autonomy (low, high) as the independent variables.

TABLE 30
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS FOR PERCEIVED CREATIVITY SCALE

Scale	Factor loadings	Item-Total Correlation
Perceived Creativity Scale (PC)	Factor 1	
PC 01	0.959	0.901
PC 02	0.966	0.916
PC 03	0.913	0.814
Eigen Value	2.686	
% of Variance	89.535	
Cronbach's alpha	0.940	

The ANOVA results shows that the manipulation was successful. Individuals in the low creativity conditions reported a lower perceived creativity (M = 1.996) than the individuals in the high creativity condition (M = 4.187). This difference is statistically significant (F = 90.667, *df* = 1,138, p <.001). There is not a significant effect of autonomy on the perceived creativity scale (F = .433, *df* = 1,138, p = .512). Also, there is not a significant interaction effect between creativity and autonomy on perceived creativity (F = .205, *df* = 1,138, p = .652).

In addition, I asked a seven point single item question "I feel that I could do creative work right now." I used the results of this item as a DV and compared it across creativity and autonomy conditions. Individuals in the low creativity conditions reported a lower score on this item (M = 3.708) than the individuals in the high creativity condition (M = 4.506). This difference is statistically significant (F = 7.606, *df* = 1,138, p <. 01). Neither the effect of autonomy (F = .352, *df* = 1,138, p = .554) nor the

interaction effect between autonomy and creativity was significant (F = 1.088, *df* = 1,138, p = .299). Thus, I conclude that the creativity manipulation was successful.

Next, I checked for the effectiveness of the autonomy manipulation. The autonomy manipulation check was assessed using the corrected five-item 9-point autonomy scale used in the pretest.

The corrected autonomy scale items showed good scale properties. They loaded in one factor EFA with the lowest factor loading being .925. In addition, the scale has a Cronbach's alpha of .974 as shown in Table 31.

TABLE 31
EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS FOR CORRECTED AUTONOMY SCALE (S2)

Scale		Factor loadings	Item-Total Correlation
Corrected Autonomy Scale (CAUTO)			
CAUTO 01		0.925	0.885
CAUTO 02		0.973	0.957
CAUTO 03		0.965	0.945
CAUTO 04		0.963	0.940
CAUTO 05		0.939	0.903
Eigen Value	4.543		
% of Variance	90.856		
Cronbach's alpha	0.974		

I summated the five item scale and used it as a dependent variable in a two-way ANOVA across autonomy and creativity conditions. The results show that the individuals in the low autonomy condition reported on average a lower level of autonomy (M = 2.409) than their counterparts in the high autonomy condition (M = 7.056). This

difference is statistically significant (F = 240.392, *df* = 1,138, p < .001). Neither the effect of creativity (F = .140, *df* = 1,138, p = .708) nor the effect of the interaction effect between autonomy and creativity (F = 1.037, *df* = 1,138, p = .310) was a significant predictor of the summated autonomy scale. Thus, this manipulation was successful.

In sum, the manipulations of creativity and autonomy were successful. Next, I present the results of the hypothesis tests.

Hypothesis Testing

This section tests hypotheses 5 and 6 of this dissertation. I test hypothesis 5 using a moderation analysis with a two-way ANOVA. For hypothesis 6 I test it using moderated mediation. The measures used in the test are drawn from the previous analyses and include measures of emotional attachment, task enjoyment, and willingness to dispose. Creativity and autonomy were manipulated variables. Emotional attachment was measured with a summated scale resulting from four items. Task enjoyment was measured with a four-item summated scale. Willingness to dispose is represented with a two-item weighted index. Next I discuss the hypothesis tests in detail.

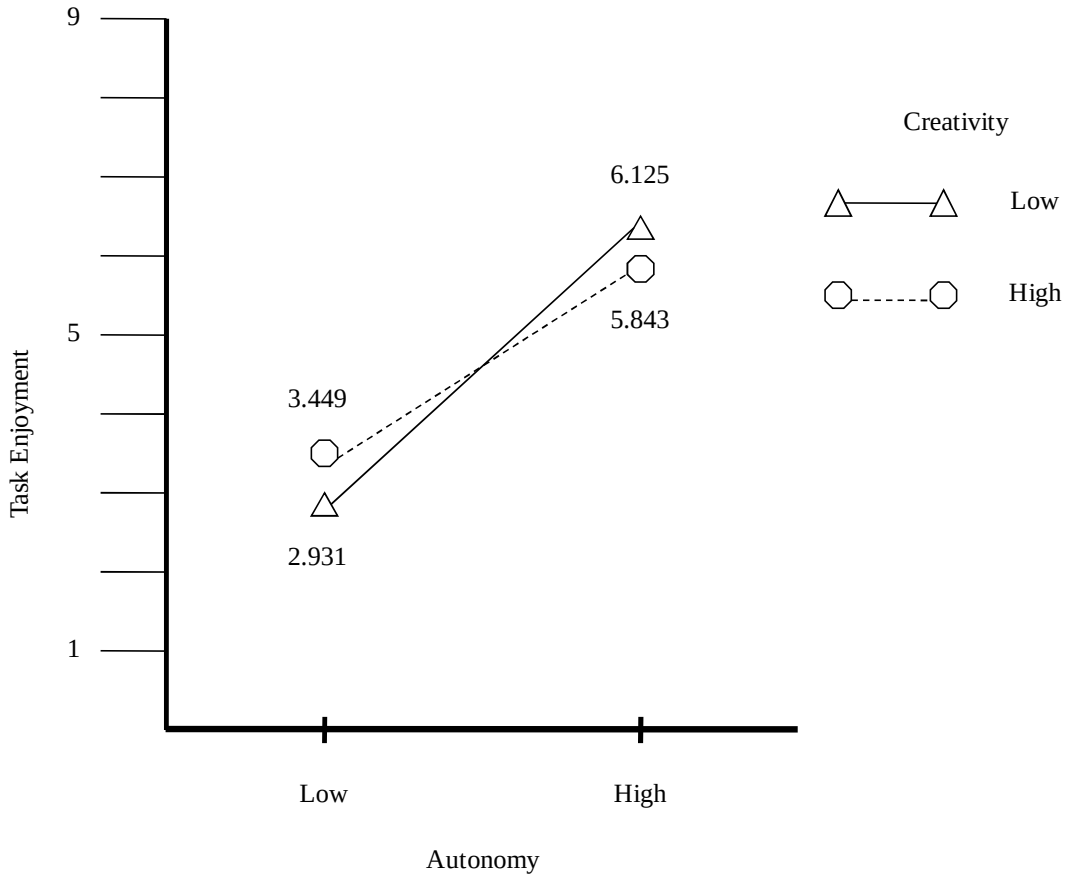
Hypothesis 5 states that there is an interaction effect such that task enjoyment will be significantly higher when the participant is in a high creativity state and is granted autonomy. To test this hypothesis, I ran a two-factor analysis of variance with autonomy and creativity as independent categorical factors and the summated task enjoyment scale as the dependent variable. The results show that the interaction effect between creativity and autonomy on TE is not significant (F = 1.633, *df* = 3,135, p >.202) as shown in Figure 13. This result does not provide support for hypothesis 5. Then, I looked at the

main effects of creativity and autonomy on task enjoyment. Only autonomy showed a significant main effect ($F = 271.196$, $df = 3,135$, $p < .001$).

In addition I ran pairwise comparisons across conditions. The results show that there is not a significant difference on task enjoyment between low creativity ($M = 6.125$) and high creativity ($M = 5.843$) conditions when participants were granted high autonomy ($F = .403$, $df = 1,135$, $p = .526$). Also, there is not a significant difference on task enjoyment between low creativity ($M = 2.931$) and high creativity ($M = 3.449$) conditions when participants were granted high autonomy ($F = 1.378$, $df = 1,135$, $p = .242$). Further, the results show that task enjoyment was higher when autonomy was high rather than low for both, low creativity ($F = 52.427$, $df = 1,135$, $p < .001$) and high creativity ($F = 29.050$, $df = 1,135$, $p < .001$) conditions.

Thus, task enjoyment was higher when autonomy was granted regardless of the creativity state. This result does not support H5.

FIGURE 13
INTERACTION EFFECT BETWEEN AUTONOMY AND CREATIVITY ON TASK ENJOYMENT

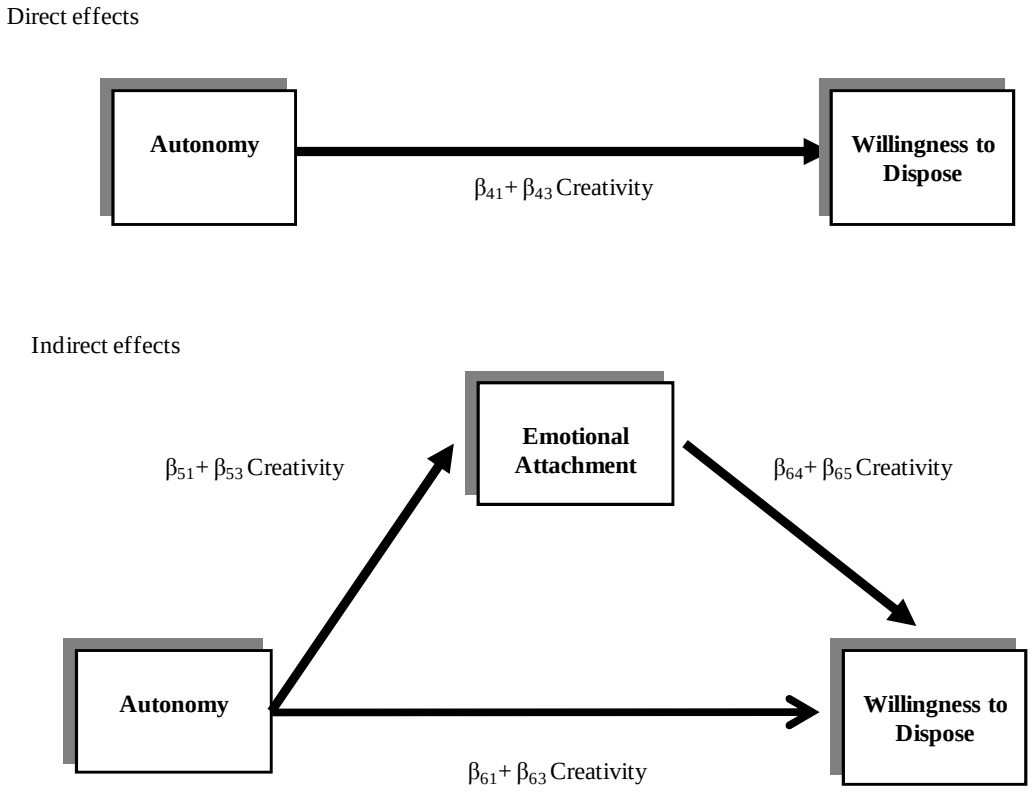


Next, hypothesis 6 suggests that task enjoyment, rather than EA, will be the process mediator between creativity, autonomy, and willingness to dispose of the object. In order to test this hypothesis I followed the procedure suggested by Muller et al. (2005) for moderated mediation. A series of regression equations are formulated in order to assess the impact of the moderator, in this case, creativity, on the mediation process. Two different procedures are run. One tests for emotional attachment as a mediator, and the second tests for task enjoyment as the mediator. I expect that creativity and autonomy will impact the level of task enjoyment. Then, I expect that as TE increases,

TE will mediate the effect between autonomy and WTD rather than EA. However, as TE decreases, I expect EA to mediate the effect of autonomy on WTD. I will test for EA as a mediator, then TE as the mediator and conclude with the interpretation of the results.

Emotional Attachment (EA) as the Mediator. First, I test mediation with EA as the mediator. EA is measured as a summated continuous scale. As suggested by Muller et al. (2005), EA and WTD are mean centered. In addition, autonomy and creativity are contrast-coded. Also, creativity was measured before autonomy and both variables are theoretically uncorrelated. Further, subjects were randomly assigned to autonomy conditions. A series of regressions were calculated in order to test the equations shown in Figure 14.

FIGURE 14
MODERATED MEDIATION OF EA



First, I estimated the following equation 1.

$$Y = \beta_{40} + \beta_{41}X + \beta_{42}Mo + \beta_{43}XMo + \varepsilon_{4,}$$

where Y is willingness to dispose, X is autonomy, Mo is creativity, and XMo is the interaction term among the two. Muller et al. (2005) suggest that for this first equation, there should be an overall main effect of the treatment (β_{41}) and the magnitude of this effect should not depend on the moderator ($\beta_{43}=0$). The results for this equation show that there is not a main direct effect of the autonomy on WTD (t = -1.610, p = .110), and there is not a significant overall moderation effect of creativity (t = -1.406, p = .162).

Although the main treatment effect is not significant, there is a possibility that Emotional Attachment is still a mediator between autonomy and WTD. Kenny, Kashy and Bolger (1998) suggest that the presence of the treatment effect on the main dependent variable is not required to establish mediation, however, there should be a link to the mediator and the mediator should be linked to the dependent variable. These requirements are tested in the following equations.

Equation 2 allows the treatment effect on the mediator to be moderated:

$$Me = \beta_{50} + \beta_{51}X + \beta_{52}Mo + \beta_{53}XMo + \varepsilon_5$$

In equation 3 both the mediator's partial effect on the outcome and the residual effect of the treatment on the outcome, controlling for the mediator, are allowed to be moderated:

$$Y = \beta_{60} + \beta_{61}X + \beta_{62}Mo + \beta_{63}XMo + \beta_{64}Me + \beta_{65}MeMo + \varepsilon_6$$

Next, to demonstrate that EA is a mediator some conditions should be met. There should be an effect of autonomy on EA and EA should significantly account for variation on WTD. That means that $\beta_{51} \neq 0$ and in addition $\beta_{64} \neq 0$ either. I ran equations 2 and 3 using linear regression and I found that there is a main effect of autonomy on emotional

attachment (EA) (β_{51} = .389, *t* = 4.915, p < .001) indicating that $\beta_{51} \neq 0$. In addition, I ran equation 3 and found that there is a significant negative main effect of EA on WTD (β_{64} = -.363, *t* = -4.177, p < .001), so $\beta_{64} \neq 0$. Both mediating conditions are met. These findings support the case that EA is a mediator between autonomy and WTD. That is, as autonomy increases so does EA. However, as EA increases, the level of WTD decreases.

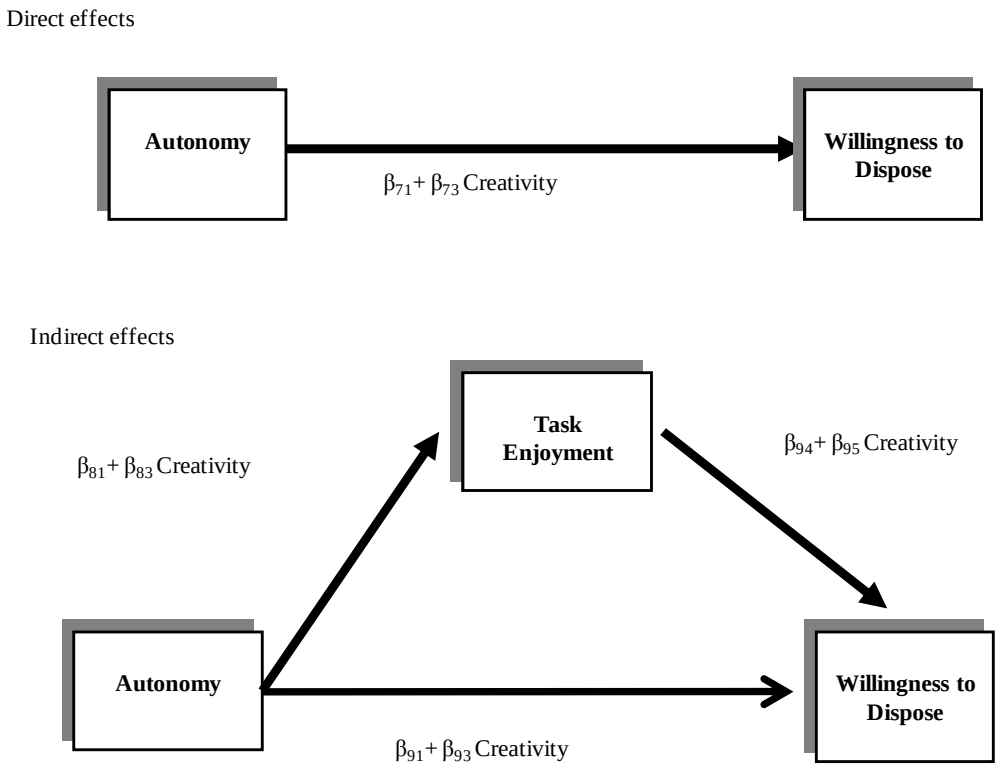
Now that EA is a mediator, the next step is to check for the moderating role of creativity on the mediation model. That is, I want to test if creativity enhances the impact of the mediation on WTD. This analysis is called moderated mediation (Mullet et al. 2005). To demonstrate moderated mediation in equations 2 and 3, either (or both) of two patterns should exist: both β_{53} and β_{64} are significant or both β_{51} and β_{65} are significant.

Since I already know that β_{64} and β_{51} are significant, I check for the significance of β_{53} and/or β_{65}. The moderated mediation results show that β_{53} is not significantly different from zero (β_{53}= .020, t = .251, p =.802). In addition, β_{65} was also not significantly different from zero (β_{65} = .107, *t* = 1.236, p = .219). The only effect is the marginal significance of the moderation effect of creativity on autonomy when emotional attachment is controlled for (β_{63} = -.153, *t* = -1.770, p = .079). The significance of β_{63} is an expected but not required consequence of moderated mediation (Muller et al. 2005). Thus, there is not an effect of creativity on EA. Overall, these results show that EA is a mediator between autonomy and WTD.

Task Enjoyment (TE) as the Mediator. Now I test moderated mediation with TE as the mediator. TE is measured as a summated continuous scale. As suggested by Muller et al. 2005, TE and WTD are mean centered. In addition, autonomy (X) and creativity (Moderator) are contrast-coded. Also, creativity was measured before

autonomy and both variables are theoretically uncorrelated and subjects were randomly assigned to autonomy conditions. A series of 3 equations were calculated in order to test the moderated mediation equations shown in Figure 15.

FIGURE 15
MODERATED MEDIATION OF TE



I followed the same procedure as in the previous section. The equations calculated were:

1) $Y = \beta_{70} + \beta_{71}X + \beta_{72}Mo + \beta_{73}XMo + \varepsilon_7$

2) $Me = \beta_{80} + \beta_{81}X + \beta_{82}Mo + \beta_{83}XMo + \varepsilon_8$

3) $Y = \beta_{90} + \beta_{91}X + \beta_{92}Mo + \beta_{93}XMo + \beta_{94}Me + \beta_{95}MeMo + \varepsilon_9$

First, I tested for the mediation properties of task enjoyment. I know from the previous analysis that there is not a treatment effect of autonomy on WTD, however as I

explained earlier, in order to establish mediation there should be an effect of autonomy on TE and an effect of TE on WTD. That is, β_{81} should be significant and β_{94} should also be significant. The results show that there is an effect of autonomy on task enjoyment (β_{81} = .606, *t* = 8.927, p < .001). Also, there is a negatively significant main effect of task enjoyment on WTD (β_{94} = -.325, *t* = -3.121, p = .002). These results show that TE is a mediator of the effect of autonomy on WTD.

Next I test for the moderation of creativity on the mediation paths. Since I already know that β_{81} and β_{94} are significant, I check for the significance of β_{83} and/or β_{95}. The moderated mediation results show that β_{83} is not significantly different from zero (β_{83}= -.087, t = -1.278, p =.203). In addition, β_{95} was not significant (β_{95} = .047, *t* = .456, p = .649). The only effect is the marginal significance of the moderation effect of creativity on autonomy when task enjoyment is controlled for (β_{93} = -.176, *t* = -1.683, p = .095). The significance of β_{93} is an expected but not required consequence of moderated mediation (Muller et al. 2005). Overall, these results do not support the case that the mediation of TE is enhanced by creativity.

In addition, I conducted the same analyses with WTDALL as the dependent variable. The results showed no improvement to the model.

Conclusion. The conclusion of these analyses is that both emotional attachment and task enjoyment are mediators between autonomy and WTD. Autonomy is positively related to both, EA and TE. In consequence, both mediators EA and TE are negatively related to WTD. That is, as the level of autonomy increased, EA and TE increased. In addition, as EA and TE increased, the willingness to dispose of the object decreased. Thus, these results do not support the hypothesis that TE, rather than EA, is the process

mediator between creativity, autonomy, and willingness to dispose of the object. However, interestingly, the results show that both TE and EA are mediators between autonomy and WTD. A bivariate correlation shows that task enjoyment (TE) and emotional attachment (EA) are significantly correlated (r = .600). If EA and TE are related, the question becomes what is the relationship between them. Next, I conduct a *post hoc* analysis to understand these findings.

As noted above, I know that EA and TE are related to WTD. I ran separate analyses where I found that both EA and TE are mediators between autonomy and WTD. Now, I ran a regression model including both variables in the model to predict WTD.

Before running the regression with both variables in the model, I checked for convergent and discriminant validity of the two constructs. I ran a CFA model with the items of both variables. The model fit indicators were as follows: Chi-Square of 64.44 (P=0.00), goodness of fit index (GFI) = 0.90, adjusted goodness of fit index (AGFI) = 0.81, normed fit index (NFI) = 0.97, non-normed fit index (NNFI) = 0.97, comparative fit index (CFI) = 0.98.

Several methods have been suggested to assess discriminant validity. One method involves calculating the Average Variance Explained (AVE), which measures the ratio of variance to measurement error in the scale. Fornell and Larcker (1981) suggest that adequate measures should contain less than 50% error variance (i.e., AVE of .5 or higher). The AVE estimates for EA was 87.01% and 90.48% for TE. Evidence of discriminant validity occurs when the AVE estimates for each factor are greater than the squared correlation between the factors. The correlation between EA and TE is 0.61. AVE ‘s for both factors are greater than the squared correlation between them.

In addition, as recommended by Anderson and Gerbing (1988) and Bagozzi, Yi, and Phillips (1991), I ran a correlation less than one test for the pair of constructs. I ran a two-factor model with the correlation set equal to one and compared it with a two-factor model with the correlation freely estimated. The results show that the correlation between the constructs is less than unity which provides additional support for discriminant validity ($\chi^2\Delta$ = -14.2, *df* = 1, p < .001).

Finally, I compared a model with a one factor solution to a model with the two-factor solution. The chi-square difference test suggests that the model is better when there are two factors specified compared to one ($\chi^2\Delta$ = -610.2, *df* = 2, p < .001).

These findings suggest discriminant validity between task enjoyment (TE) and emotional attachment (EA).

Convergent validity was assessed for both constructs as well. Each item demonstrated a significant loading on its intended construct and there were not modification indexes suggesting cross-loadings. This is evidence of convergent validity. In addition the composite reliability (CR) for EA equals 0.96 and 0.97 for TE. Both values are above .80 and the AVE's are higher than .50 providing additional evidence of convergent validity (Fornell and Larcker 1981). Next, I included the two variables into the same model.

What I found was that when I include both variables as independent variables, TE is not longer a significant predictor of WTD (β = -.222, t = -1.471, p = .144), but EA remains significant (β = -.590, *t* = -2.124, p = .036). The interaction effect between EA and TE is also not significant (β = .390, *t* = 1.118, p = .265). These results suggest that EA may be a mediator between TE and WTD.

To confirm these findings, I ran an analysis following a regression approach using three-stage least squares (3SLS). The 3SLS approach does not allow the analyst to account for measurement error. However, 3SLS allows simultaneous estimation of several regression equations including categorical variables. The model to be tested is that of autonomy → TE → EA → WTD. That is, autonomy leads to task enjoyment which in turn predicts EA and EA predicts WTD. The model fit the data well; the 3SLS system weighted R^2 was approximately .312.

The first equation estimates the effect of autonomy, creativity, and the interaction between the two using task enjoyment as the dependent variable. Only autonomy is a significant predictor of TE ($\beta = 3.233$, $t = 7.36$, $p < .0001$). The second equation estimates the effect of TE on EA. The results show that TE is significantly correlated to EA ($\beta = 0.61$, $t = 9.05$, $p < .0001$). Finally, the third equation estimates the impact of EA on WTD. The result shows that EA is a significant predictor of WTD ($\beta = -.352$, $t = -.45$, $p < .0001$). Thus, the results suggest that EA is a mediator between TE and WTD.

A detailed discussion of the findings is presented in the next chapter. Also, the limitations of the present study are described. Finally, I end the dissertation with directions for future research.

CHAPTER VI

DISCUSSION

Chapter VI is organized in five sections. The first section provides an overview of the dissertation. Second, research findings are discussed. Then, theoretical and managerial implications are presented. The fourth section discusses the research limitations of the present work. Finally, I end stating directions for future research.

Overview of the Dissertation

The purpose of this research was to investigate the role of emotional attachment in co-production of objects. After an extensive review of the literature, it was found that emotional attachment, which is the emotional bond of an individual to an object, and co-production, which is defined as the extent of a customer's hands-on interaction in the production of an object, share similar antecedents and consequences. Thus, there is evidence to believe that these two constructs may belong to the same nomological network. However, the relationship between emotional attachment and co-production has not been explored in the literature. This is the research gap that I attempt to fill.

This research gap is relevant to academics and managers. For academics, the study of the two constructs ads to the understanding of a nomological network. For managers this study improves their understanding of the customer's reactions to co-production and they may tailor their co-production processes to better satisfy their customers. More specifically, the proposed dependent variable in this study is

willingness to dispose which is managerially relevant and theoretically related to emotional attachment and co-production.

In order to fill this gap in the literature, I explored the role of emotional attachment under two possible scenarios. First, I investigated what is the role of emotional attachment in co-production when the focus of the co-production is the object. Second, I explored the role of emotional attachment when the focus is the task. Based on related theories, meaningful relationships between EA and co-production are proposed and hypotheses were stated.

The hypotheses were tested by conducting two experimental studies. Study one explores the role of EA created by co-production and its effect on the willingness to dispose of the object (WTD). EA is proposed to mediate the relationship between customer co-production and WTD. Also proposed is the moderating effect of meness. Meness refers to the level of association of an object and the self. I tested these relationships using a 2 (co-production: low, high) × 2 (Meness: low high) between-subjects experimental design. In Study Two, I investigated the impact of task enjoyment in the formation of EA due to co-production. I argue that by manipulating autonomy and creativity in the task, WTD increases due to the mediation of task enjoyment and the reduction of EA to the object. I tested these relationships using a 2 (Autonomy: low, high) × 2 (Creativity: low high). Both experiments were conducted in a lab setting where participants were randomly assigned to one of the conditions to engage in a co-production exercise. Then, the proposed hypotheses were tested using rigorous statistical analyses.

Next, I discuss the findings of the two studies.

Discussion of the Research Findings

In this section I discuss the research findings of two experimental studies that were conducted in order to understand the role of emotional attachment in customer co-production. I discuss the findings of each study in turn, and then I discuss the overall findings of the study.

Discussion of Study 1

Study one results were surprising and unexpected. First, I expected that higher levels of hands-on participation would lead to less willingness to dispose of the object, especially when the object was associated to the self (i.e., in the high meness condition). The results did not support these relationships. The results show that individuals who physically interacted with the object during its production and were primed with lower levels of meness reported a marginally higher willingness to dispose of the co-produced object. However, these findings may have a logical explanation.

The explanation for these findings may be found in the manipulation procedures for meness. As the reader may recall, I manipulated the level of meness by making participants associate their self to the focal object (pillows) or disassociate the object from their self. The manipulation not only strengthened the association of the self to the object, but also reduced or eliminated the association of the self to the object by asking the respondent to associate pillows to others not to their selves. Following the prime, I asked participants in the high co-production condition to manually make a pillow.

When asking participants in the low meness condition to manually produce a pillow, a cognitive inconsistency or imbalance may have been created (Heider 1958; Festinger 1957; Osgood and Tannenbaum 1955). On one hand, I made participants

associate pillows to others not to the self, and on the other hand I had participants make a pillow with their own hands. The performing of the task may have initiated a relationship between the pillow and the self. In order to cope with the psychological inconsistency or imbalance (i.e., I am not related to pillows but I am making one), respondents may have opted to get rid of the pillow as soon as they could in order to maintain psychological consistency.

The second unexpected finding in study one is that co-production was not related to emotional attachment. This finding may have two explanations. One explanation may be that although the manipulation checks were successfully pretested and significant in the main study, the manipulation of co-production may have not been strong enough. I proposed that co-production provides the necessary conditions for emotional attachment to develop since there is tactile contact with the object. However, the tactile contact may have not been long enough for an emotional bond to be created. EA takes some time to develop and maybe I did not provide sufficient time during the experiment.

Another explanation may be that the choices that participants had while making the pillow may have not been vast enough. If there were not sufficient choices to make, maybe participants could have felt that the pillow was not made at their specific choice and they may have felt forced to make the pillow, thus reducing their attitudes towards the co-produced object.

These explanations of what could have happened are merely speculative. Unfortunately, I did not collect measures for these unexpected findings. However, these interesting findings open the door for future studies in the topic. Now, I discuss the findings for study two.

Discussion of Study 2

The results of study two were also unexpected. I hypothesized that autonomy and creativity would interact to strengthen task enjoyment. In addition, I expected that as task enjoyment increased, the effect of emotional attachment on WTD would have decreased. However, I found different results.

The interaction between autonomy and creativity to predict task enjoyment was not significant. However, I found that autonomy had a main effect on task enjoyment such that individuals in high autonomy conditions enjoyed the task more than individuals in the low autonomy conditions.

These findings are consistent with previous research (Dahl and Moreau 2007). Dahl and Moreau argue that task enjoyment should be higher when autonomy is allowed and individuals are given complete instructions on how to do the task. However, task enjoyment should be lower when individuals are not given autonomy but they have complete instructions on how to do the task. In my experiment, I maintained the level of instructions constant. All conditions had complete written instructions on how to do the task.

Thus, these findings add to previous research on co-production to suggest that individuals appreciate the autonomy given in a co-production task regardless of their creative mood.

Another interesting finding is that there was a main effect of autonomy on both emotional attachment and task enjoyment. That is, individuals who were allowed to design the coffee mug as they wanted reported higher levels of emotional attachment and higher levels of task enjoyment. EA and TE were also related to WTD such that as EA

increased, WTD decreased. Further, when TE increased, WTD also decreased. The moderated mediation analyses suggest that EA and TE are mediators between autonomy and WTD. However, I expected that as TE increased, WTD would increase since the product would not be as relevant as the task (Cowley 2008).

A *post hoc* analysis revealed that EA is a mediator between TE and WTD. This finding may be supported by emotional attachment literature since it has been proposed that individuals may get emotionally attached to meaningful objects (Belk 1988). One way that an object may become meaningful is by the memories or experiences that the object evokes. For example, an entry ticket for a zoo may be meaningful to someone who wants to remember the experiences and moments lived that day in the zoo. In the same manner, in this study, individuals who enjoyed the task may have also experienced a higher level of emotional attachment because there may have been meaning derived from the co-production task. This interesting finding is discussed in more detail in the following overall discussion.

Overall Discussion

This dissertation extends the literature on co-production and emotional attachment. The main findings of this work are twofold. First, I found that co-production, task enjoyment, emotional attachment and willingness to dispose are related. This finding is important because it adds to previous studies on co-production. Franke and Shreier (2008) propose that consumers that are given the opportunity of creating something unique are more satisfied and value their products more. However they did not explain what is the psychological mechanism underlying these results.

I propose that the creation of emotional attachment towards the object resulting from task enjoyment is the explaining mechanism for an incremental valuation of co-created objects. This extends recent research (e.g. Peck and Shu 2009). I found that when co-production is enjoyable, then the individual values their product more as reflected in their lower willingness to dispose of it. This relationship is mediated by the emotional attachment towards the object. In sum, the more a consumer enjoys co-producing, the more the consumer will love what they make.

The second finding of this dissertation is that task enjoyment is positively related to the autonomy that a consumer may have in the co-production task regardless of the consumer's creative mood state. This finding adds to the literature on task enjoyment and suggests that the freedom on creating original work drives the enjoyment in co-production activities. Now I discuss the theoretical and practical implications of the findings.

Theoretical Implications

This dissertation adds to the literature of emotional attachment and customer co-production. The findings show that co-production and emotional attachment are related when there is a high level of task enjoyment. High levels of task enjoyment translate to higher levels of emotional attachment. This emotional attachment in turn reduces the willingness to dispose of an object.

In addition, I found that autonomy in the co-production task makes the task more enjoyable regardless of the initial creative mood state of the co-producer. These relationships and findings had not been investigated before and contribute to the understanding of the role of emotional attachment in co-production.

Managerial Implications

These work findings may be relevant for managers that offer or consider offering co-production opportunities to their customers. First, managers may be interested in the fact that customers enjoy the co-production task when they are given freedom in their choices regardless of their creative mood state. Also, managers may be interested in the fact that the results suggest that the more a customer enjoys the task the more emotionally attached that the customer becomes to the object which in turn predicts the customer's intention to dispose of the object. If a manager knows how the customer creates a bond to the object, then a manager may consider tailoring their business to better satisfy its customers. For example, in high attachment conditions, a business may offer accessories, ad-on features, or warranties because they know that their customers may keep their products for a longer period of time.

Research Limitations

There are limitations to consider in the interpretation of the results presented in this work. In this section, I describe some of those limitations. First, caution should be taken in the generalizability of the research findings. The results may not apply to all co-creation phenomena. I tested the models under a specific type of co-creation which is co-production. Care should be taken to interpret the results under different types of customer input.

In addition, the sample is limited. Although I chose the sample to be undergraduate college studies for higher control and better assessment of causal relationships (Calder et al. 1981, 1982), caution should be taken in order to extend these

results to other more heterogeneous populations. A field experiment or a survey may be useful in generalizing the results.

Further, as I already noted in the discussion section, the objects used in the studies for participants to co-produce may not represent all the set of products to be co-produced. In addition, the participants may have not had a high level of involvement in the product category. It may be expected in real life that co-producers may have high levels of involvement in the product category in which they choose to co-produce.

The current study is also limited in the number of variables measured and tested. Several related variables may have been omitted and left out for example customer satisfaction, perceived product quality, co-production experience, among others. These variables were not included because they were out of the scope of the dissertation and they were left out for future research.

Also, there was some trouble measuring willingness to dispose (WTD). WTD was defined as a formative scale. The formative scale did not perform well and various procedures were needed to form the scales used. Caution should be considered when interpreting the results.

Finally, there may be concerns related to treatment manipulation issues. Maybe the manipulations were not strong enough to make the effects significant. It may be argued that the manipulation check for creativity in study 2 may have influenced the results. I asked the participants to complete the manipulation check for the creativity prime before the co-production task. Whether the effect of the creativity prime was carried over the main experiment may be questioned. To check for this, I conducted a post test to check if the creativity prime lasts enough to complete a creative task.

I randomly assigned twenty seven participants to two different conditions. The test was done before class in three small marketing classes. None of the respondents had done a related study before. The first condition followed the same high creativity manipulation as in the main study. I used only the high creativity condition since I want to check if the effect lasted or not. In addition, the creativity task was the drawing of a house similar to the high autonomy pretest condition rather than the mug decoration. The manipulation check questions were situated right after the prime and prior to the drawing of the house. Then, after the drawing of the house, participants were asked whether they felt creative drawing the house, if they felt that their work was creative, and if they felt imaginative while drawing the house. In the second condition, participants followed the same procedures than participants in the first condition. However, the manipulation check questions were asked after the drawing of the house.

Twenty five responses were analyzed. There were twelve responses in the no change condition and thirteen in the new condition with all the questions until the end. I ran a multivariate test of variance with the three house drawing related questions as the dependent variables and the type of condition as the fixed factor. The results show that there was not a statistically significant difference between the two groups on their perception of how creative they felt ($F = .668$, $df = 1,24$, $p = .422$), how creative their work was ($F = .003$, $df = 1,24$, $p = .958$), or how imaginative they felt while drawing the house ($F = .327$, $df = 1,24$, $p = .573$). Although these findings suggest that the creativity manipulation was successful throughout the experiment, the experiment findings should be taken with caution.

Directions for Future Research

There is a vast opportunity for future research based on this dissertation. This dissertation opens an avenue for empirical research on co-production, co-creation, and emotional attachment. In this section, I will describe some, but by no means all, possible directions for future research.

First, the replication of this experimental work under other co-creation situations may expand the conditions for the role of emotional attachment and task enjoyment on willingness to dispose. There may be other related variables under different co-creation contexts that may moderate the results from this dissertation. Research on these different types of customer involvement in the creation of goods is necessary to understand the co-creation phenomena.

Second, there are several variables that were not studied in this dissertation that may have moderating effects on the results. For instance, I found that as task enjoyment increases, emotional attachment increases as well, thus reducing the willingness to dispose of an object. However, this effect may change as there is a repetition on the task. That is, maybe as individuals repeat a task more and more times, the outcomes become less relevant. In the present study I investigated the role of emotional attachment on a one time co-production task. Further research is necessary to understand the role of emotional attachment in repeated co-production activities.

Third, the study of co-production and intentions is scant. In this research I did not assess if individuals were or were not likely to be thinking about keeping the pillow at the moment they made it. Although I tried to stress the fact that the object was theirs to keep, participants' predisposition may have resulted in lower attachment towards the object.

Further study of emotional attachment and intentions is necessary to understand psychological outcomes (e.g., Novemsky and Kahneman 2005).

Finally, this research opens a window in the understanding on how consumers value co-produced objects. It is argued that oftentimes customers do not pay the premium necessary for companies to allow customer participation (Moreau 2009). Based on this work's findings, one may propose that consumers may value their co-produced objects more if they enjoy performing the co-production task. More research is needed to understand how customers value their participation in the production of their goods.

REFERENCES

Ahluwalia, Rohini, H. Rao Unnava, and Robert E. Burnkrant (2001), "The Moderating Role of Commitment in the Spillover Effect of Marketing Communications," *Journal of Marketing Research*, 38 (4), 458-470.

Ahuvia, Aaron C. (2005), "Beyond the Extended Self: Loved Objects and Consumers' Identity Narratives," *Journal of Consumer Research*, 32 (1), 171-183.

Amabile, Teresa M. (1988), "A Model of Creativity and Innovation in Organizations," *Research in Organizational Behavior*, 10, 123–67.

Ambler, Tim, C.B. Bhattacharya, Julie Edell, Kevin Lane Keller, Katherine N. Lemon, and Vikas Mittal (2002), "Relating Brand and Customer Perspectives on Marketing Management," *Journal of Service Research*, 5 (1). 13-25.

Anderson, James C. and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, 103 (3), 411-423.

Andrews, Jonlee and Daniel C. Smith (1996), "In Search of the Marketing Imagination: Factors Affecting the Creativity of Marketing Programs for Mature Products," *Journal of Marketing Research*, 33 (May), 174-87.

Ariely, Dan and Itamar Simonson (2003), "Buying, Bidding, Playing or Competing? Value Assessment and Decision Dynamics in Online Auctions," *Journal of Consumer Psychology*, 13 (1&2), 113-123.

Ariely, Dan, Joel Huber, and Klaus Wertenbroch (2005), "When Do Losses Loom Larger Than Gains?" *Journal of Marketing Research*, 42 (May), 164-138.

Aronson, E. and J. Mills (1959), "The Effect of Severity of Initiation of Liking for a Group," *Journal of Abnormal & Social Psychology*, 59, 177-181.

Bagozzi, Richard (1994), *Principles of Marketing Research*. Cambridge, Massachusetts: Blackwell Business.

Bagozzi, Richard P. and Utpal M. Dholakia (2006), "Antecedents and Purchase Consequecnes of Customer Participation in Small Group Brand Communities," *International Journal of Research and Marketing*, 23, 45-61.

Bagozzi, Richard P., Youjae Yi and Lynn Phillips (1991), "Assessing Construct Validity in Organizational Research," *Administrative Science Quarterly*, 36, 421–458.

Baldwin, Mark, John Keelan, Beverly Fehr, Vicky Enns, and Evelyn Koh-Rangarajoo (1996), "Social-Cognitive Conceptualization of Attachment Working Models: Availability and Accessibility Effects," *Journal of Personality and Social Psychology*, 71 (1), 94-109.

Ball, Dwayne A. and Lori Tasaki (1992), "The Role and Measurement of Attachment in Consumer Behavior," *Journal of Consumer Psychology*, 1 (2), 155-172.

Bandura, Albert (1986), *Social Foundations of Thought and Action: A Social Cognitive Theory*, Englewood Cliffs, NJ: Prentice-Hall.

Baron, Reuben and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-1182.

Belk, Russell W. (1988), "Possessions and the Extended Self," *The Journal of Consumer Research*, 15 (September), 139-168.

Belk, Russell W. (1989), "Extended Self and Extending Paradigmatic Perspective," *Journal of Consumer Research*, 16 (June), 129-132.

Belk, Russell W. (1992), "Moving Possessions: An Analysis Based on Personal Documents from the 1847-1869 Mormon Migration," *Journal of Consumer Research*, 19 (December), 339-361.

Bendapudi, Neeli and Robert P. Leone (2003), "Psychological Implications of Customer Participation in Co-Production," *Journal of Marketing*, 67 (January), 14-28.

Berger, Christoph, Kathrin Moslein, Frank Piller, and Ralf Recihwald (2005), "Co-designing Modes of Cooperation at the Customer Interface: Learning from Exploratory Research," *European Management Review*, 2, 70-87.

Bitner, Mary Jo, William T. Faranda, Amy R. Hubbert, and Valarie A. Zeithaml (1997), "Customer Contributions and Roles in Service Delivery," *International Journal of Service Industry Management*, 8 (3), 193-205.

Bollen, Kenneth and Richard Lennox (1991), "Conventional Wisdom on Measurement: A Structural Equation Perspective," *Psychological Bulletin*, 110 (2), 305-314.

Bowen, David E. (1986), "Managing Customers as Human Resources in Service Organizations," *Human Resource Management*, 25 (3), 371-383.

Bowlby, John (1969), *Attachment and Loss*: Vol. 1. Attachment. New York: Basic Books.

Bowlby, John (1979), "The Making and Breaking of Affectional Bonds," London.

Boyle, Emily (2007), "A Process Model of Brand Cocreation: Brand Management and Research Implications," *Journal of Product and Brand Management*, 16 (2), 122-131.

Bretherton, Inge (1985), "Attachment Theory: Retrospect and Prospect," in *Monographs of the Society for Research in Child Development*, Society for Research in Child Development.

Brown, S.R., and L.E. Melamed (1990), *Experimental Design and Analysis*. Thousand Oaks, CA: Sage Publications.

Burke, Martin, W. David Conn, and Richard J. Lutz (1978), "Using Psychographic Variables to Investigate Product Disposition Behaviors," Proceedings, Educators Conference, *American Marketing Association*, 321-326.

Burroughs, James E., David Glenn Mick (2004), "Exploring Antecedents and Consequences of Consumer Creativity in a Problem-Solving Context," *Journal of Consumer Research*, 31 (September), 402-411.

Calder, Bobby J., Lynn W. Phillips, and Alice M. Tybout (1981), "Designing Research for Application," *Journal of Consumer Research*, 8 (September), 197-207.

Calder, Bobby J., Lynn W. Phillips, and Alice M. Tybout (1982), "The Concept of External Validity," *The Journal of Consumer Research*, 9 (December), 240-244.

Campbell, Donald T. and Julian C. Stanley (1963), *Experimental and Quasi-Experimental Designs fo rResearch*. Chicago: Rand McNally.

Carmon, Ziv, Klaus Wertenbronch, and Marcel Zeelenberg (2003), "Option Attachment: When Deliberating Makes Choosing Feel Like Losing," *Journal of Consumer Research*, 30 (June), 15-29.

Chase, Richard B. and David A. Tansik (1983), "The Customer Contact Model for Organization Design," *Management Science*, 29 (9), 1037-1050.

Churchill, Gilbert A., Jr. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs," *Journal of Marketing Research*, 16 (February), 64-73.

Coutler, Robin A. and Mark Figas (2003), "To Retain or To Relinquish: Exploring the Disposition Practices of Packrats and Purgers," in *Advances in Consumer Research*, Vol. 30 eds. Punam Anand Keller and Dennis W. Rook, Atlanta, Georgia: Association for Consumer Research, 38-43.

Cowley, Elizabeth (2008), "The Perils of Hedonic Editing," *Journal of Consumer Research*, 35 (June), 71-84.

Cripps, John D. and Robert J. Meyer (1994), "Heuristics and Biases in Timing the Replacement of Durable Products," *The Journal of Consumer Research*, 21 (September), 304-318.

Cronbach, L.J. and P.E. Meehl (1955). "Construct Validity in Psychological Tests," *Psychological Bulletin*, **52** (4), 281-302.

Curasi, Carolyn Folkman, Linda L. Price, and Eric J. Arnould (2004), "How Individuals' Cherished Possessions Become Families' Inalienable Wealth," *Journal of Consumer Research*, 31 (December), 609-622.

Dabholkar, P.A. (1990), "How to Improve Perceived Service Quality by Improving Customer Participation," In B. J. Dunlap (Ed.), *Developments in Marketing Science,* NC Journal of the Academy of Marketing Science, 483-487.

Dahl, Darren W. and C. Page Moreau (2007), "Thinking Inside the Box: Why Consumers Enjoy Constrained Creative Experiences," *Journal of Marketing Research*, 44 (August), 357-369.

De Dreu, Carsten K.W., Matthijs Baas, and Bernard A. Nijstad (2008), "Hedonic Tone and Activation Level in the Mood-Creativity Link: Toward a Dual Pathway to Creativity Model," *Journal of Personality and Social Psychology*, 94 (5), 739-756.

Deci, Edward L. and Richard M. Ryan (1985), *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum

Dellaert, Benedict G.C. and Stefan Stremersch (2005), "Marketing Mass-Customized Products: Striking a Balance between Utility and Complexity," *Journal of Marketing Research*, 42 (May), 219-227.

Dellande, Stephanie, Mary C. Gilly, and John L. Graham (2004), "Gaining Compliance and Losing Weight: The Role of the Service Provider in Health Care Services," *Journal of Marketing*, 68 (July), 78-91.

Dhar, Ravi and Itamar Simonson (1992), "The Effect of the Focus of Comparison on Consumer Preferences," *Journal of Marketing Research*, 29 (November), 430-440.

Diamantopolous, Adamantios and Heidi M. Winklhofer (2001), "Index Construction with Index Indicators: An Alternative to Scale Development," *Journal of Marketing Research*, 38 (2), 269-277.

Diamantopolous, Adamantios and Judy A. Siguaw (2006), "Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration," *British Journal of Management*, 17, 263-282.

Dong, Beibei, Kenneth R. Evans, and Shaoming Zou (2007), "The Effects of Customer Participation in Co-created Service Recovery," *Journal of the Academy of Marketing* Science, forthcoming.

Eisenhauer, Brian, Richard Krannich, and Dale Blahna (2000), "Attachments to Special Places on Public Lands: An Analysis of Activities, Reason for Attachments, and Community Connections," *Society and Natural Resources*, 13, 421-441.

Etgar, Michael (2007), "A Descriptive Model of the Consumer Co-production Process," *Journal of the Academy of Marketing Science*, forthcoming.

Festinger, L. (1957), *A Theory of Cognitive Dissonance*. Palo Alto, CA: Stanford University Press.

Fisher, Cynthia D. (1978), "The Effects of Personal Control, Competence, and Extrinsic Reward Systems on Intrinsic Motivation," *Organizational Behavior and Human Performance*, (21), 273-288.

Fornell, Claes and David F. Larcker (1981), " Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, 18 (February), 39-50.

Franke, Nikolaus and Martin Schreier (2008), "Product Uniqueness as a Driver of Customer Utility in Mass Customization," *Marketing Letters*, 19 (2), 93-107.

Franke, Nikolaus and Frank Piller (2004), "Value Creation by Toolkits for User Innovation and Design: The Case of the Watch Market," *The Journal of Product Innovation Management*, 21, 401-415.

Gawronski, Bertram, Galen V. Bodenhausen, and Andrew P. Becker (2007), "I Like It Because I Like Myself: Associative Self-Anchoring and Post-Decisional Change of Implicit Evaluations," *Journal of Experimental Social Psychology*, 43, 221-232.

George, J.M. and A.P. Brief (1996), "Motivational Agendas in the Work-Place: The Effects of Feelings on Focus of Attention and Work Motivation," In B.M. Staw and L. L. Cummings (Eds.), *Research in Organizational Behavior: An Annual Series of Analytical Essays and Critical Reviews*, Greenwich CT: JAI Press, 18, 75-109.

Gerbing, David W. and James C. Anderson (1988), "An Updated Paradigm for Scale Development Incorporating Unidimensionality and Its Assessment," *Journal of Marketing Research*, 25 (May), 186-192.

Geyskens, Inge, Jan-Benedict E.M. Steenkamp, and Nirmalaya Kumar (1999), "A Meta-Analysis of Satisfaction in Marketing Channel Relationships," *Journal of Marketing Research*, 36 (2), 223-238.

Greenwald, A.G., M.R. Banaji, L.A. Rudman, S.D. Farnham, B.A. Nosek, and D.S. Mellott (2002), "A Unified Theory of Implicit Attitudes, Self-Esteem, and Stereotypes," *Psychological Review*, 102, 4-27.

Grohmann, Bianca, Eric R. Spangenberg, and David E. Sprott (2007), "The Influence of Tactile Input on the Evaluation of Retail Product Offerings," *Journal of Retailing*, 83 (2), 237-245.

Guilford, Joy Paul (1967), *The Nature of Human Intelligence*, New York: McGraw-Hll.

Hanson, James W. (1980), "A Proposed Paradigm for Consumer Product Disposition Processes," *Journal of Consumer Affairs*, 14 (1), 49-67.

Harrel, Gilbert D. and Diane M. McConocha (1992), "Personal Factors Related to Consumer Product Disposal Tendencies," *The Journal of Consumer Affairs*, 26 (2), 397-417.

Hartline, Michael D. and O.C. Ferrell (1996), "The Management of Customer-Contact Service Employees: An Empirical Investigation," *Journal of Marketing*, 60 (October), 52-70.

Hazan, Cindy and Phillip Shaver (1987), "Romantic Love Conceptualized as an Attachment Process," *Journal of Personality and Social Psychology*, 52 (3), 511-524.

Hazan, Cindy and Phillip Shaver (1994), "Attachment as an Organizational Framework for Research on Close Relationships," *Psychological Inquiry*, 5 (1), 1-22.

Heider, Fritz (1958), *The Psychology of Interpersonal Relations*, New York: Wiley.

Hibbert, Sally A., Suzanne Horne, and Stephen Tagg (2005), "Charity Retailers in Competition for Merchandise: Examining How Consumers Dispose of Used Goods," *Journal of Business Research*, 58, 819-828.

Hirschman, Elizabeth C. (1980), "Innovativeness, Novelty Seeking, and Consumer Creativity," *The Journal of Consumer Research*, 7 (3), 283-295.

Holland, Jonna and Stacey Menzel Baker (2001), "Customer Participation in Creating Site Brand Loyalty," *Journal of Interactive Marketing*, 15 (4), 34-45.

Hunt, Shelby D., Lawrence B. Chonko, and Van R. Wood (1985), "Organizational Commitment and Marketing," *Journal of Marketing*, 49 (Winter), 112-126.

Im, Subin and John P. Workman Jr. (2004), "Market Orientation, Creativity, and New Product Performance in High Technology Firms," *Journal of Marketing*, 68 (April), 114-132.

Jacoby, Jacob, Carol K. Berning, and Thomas F. Dietvorst (1977), "What About Disposition?" *Journal of Marketing*, 41(April), 22-28.

Jacoby, Jacob (1978), "Consumer Behavior: A State of the Art Review," *Journal of Marketing*, 42 (April), 87-96.

Jia, He and Yonggui Wang (2007), "Consumer Creativity, Participation and Satisfaction: The Influence of Domain Knowledge in Service Context," *Proceedings of the Industrial Engineering and Engineering Management Conference*.

Jiménez, Fernando R. and Kevin E. Voss (2007), "Emotional Attachment to Objects: Proposed Antecedents," in Jakki J. Mohr and Robert J. Fisher (eds.), 2007 *AMA Educator's Proceedings*, Volume 18. Chicago, IL: American Marketing Association. 290-291.

Judd, Charles M., Louise Kidder, and Eliot R. Smith (1986), *Research Methods in Social Relations*, Sixth edition. New York: Rinehart and Winston.

Jöreskog, K. G., & Sörbom, D. (2006). LISREL forWindows. Lincolnwood, IL: Scientific Software International.

Kardes, Frank R. and David M. Sanbonmatsu (1993), "Direction of Comparison, Expected Feature Correlation, and the Set-Size Effect in Preference Judgment," *Journal of Consumer Psychology*, 2 (1), 39-54.

Kelley, Scott W., James H. Donnelly, Jr., and Steven J. Skinner (1990), "Customer Participation in Service Production and Delivery," *Journal of Retailing*, 66 (3), 315-335.

Kelley, Scott W., Steven J. Skinner, and James H. Donnelly Jr., (1992), "Organizational Socialization of Service Customers," *Journal of Business Research*, 25, 197-214.

Kellogg, Deborah L., William E. Youngdahl, and David E. Bowen (1997), "On the Relationship Between Customer Participation and Satisfaction: Two Frameworks," *International Journal of Service Industry Management*, 8 (3), 206-219.

Kenny, David A., Deborah A. Kashy, and Niall Bolger (1998), "Data Analysis in Social Psychology," In D. Gilbert, S. Fiske, and G. Lindzey (Eds.) *The Handbook of Social Psychology*, Vol 1. 4th Edition. Boston, MA: McGraw Hill, 233-265.

Klein, Emily D., Ramesh S. Bhatt, and Thomas R. Zentall (2005), "Contrast and the Justification of Effort," *Psychonomic Bulletin and Review*, 12 (April), 335-339.

Kleine, Robert III and Jerome Kernan (1991), "Contextual Influences on the Meanings Ascribed to Ordinary Consumption Objects," *Journal of Consumer Research*, 18 (December), 311-324.

Kleine, Susan, Robert Kleine III, and Chris Allen (1995), "How is a Possession "Me" or "Not Me"? Characterizing Types and an Antecedent of Material Possession Attachment," *Journal of Consumer Research*, 22 (December), 327-343.

Kleine, Robert E. III, Susan Schultz Kleine, and Jerome B. Kernan (1993), "Mundane Consumption and the Self: A Social-Identity Perspective," *Journal of Consumer Psychology*, 2 (3), 209-235

Kleine, Susane and Stacey Baker (2004), "An Integrative Review of Material Possession Attachment," *Academy of Marketing Science Review*, 1-35.

Knee, C. Raymond and Miron Zuckerman (1996), "Causality Orientations and Disappearance of the Self-Serving Bias," *Journal of Research in Personality*, 30 (5), 76-87.

Kurtzberg, Terri R. (2005), "Feeling Creative, Being Creative: An Empirical Study of Diversity and Creativity in Teams," *Creativity Research Journal*, 17 (1), 51-65.

Lastovicka, John L. and Karen V. Fernandez (2005), "Three Paths to Disposition: The Movement of Meaningful Possessions to Strangers," *Journal of Consumer Research*, 31 (March), 813-823.

Lengnick-Hall, Cynthia A. (1996), "Customer Contributions to Quality: A Different View of The Customer-Oriented Firm," *The Academy of Management Review*, 21 (3), 791-824.

Lengnick-Hall, Cynthia A., Vicentia (Cindy) Claycomb, and Lawrence W. Inks (2000), "From Recipient to Contributor: Examining Customer Roles and Experienced Outcomes," *European Journal of Marketing*, 34 (3), 359-364.

Lennon, John and Paul McCartney (1964), *"Can't Buy Me Love," A Hard Day's Night*. London, UK: Parlophone Records.

Liljander, Veronica and Tore Strandvik (1995), "The Nature of Customer Relationships in Services," in T.A. Swartz, D.E. Bowen, and S.W. Brown (Eds.), *Advances in Services Marketing and Management*, Vol. 4. Greenwich CT: JAI Press.

Locke, John (1690), *Two Treatises of Government*. Oxford, England: Oxford University Press.

Lovelock, Christopher H. and Robert F. Young (1979), "Look to Consumers to Increase Productivity," *Harvard Business Review*, 57 (3), 168-178.

Lusch, Robert F. and Stephen Vargo (2006), "Service-Dominant Logic: Reactions, Reflections and Refinements," *Marketing Theory*, 6(3), 281-288.

Lusch, Robert F., Stephen L. Vargo, and Matthew O'Brien (2007), "Competing through service: Insights from Service-Dominant Logic," *Journal of Retailing*, 83 (1), 5-18.

Lyubomirsky, Sonja, Laura King, and Ed Diener (2005), "The Benefits of Frequent Positive Affect: Does Happiness Lead to Success?" *Psychological Bulletin*, 131, 803-855.

Crowne, Douglas P. and David Marlowe (1960), "A New Scale of Social Desirability Independent of Psychopathology," *Journal of Consulting Psychology*, 24 (4), 349-354.

Massi Lindsey, Lisa L. (2005), "Anticipated Guilt as Behavioral Motivation: An Examination of Appeals to help Unknown Others Through Bone Marrow Donation," *Human Communication Research*, 31 (4), 453-481.

Meuter, Matthew L., Amy L. Ostrom, Robert I. Roundtree, and Mary Jo Bitner (2000), "Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters," *Journal of Marketing*, 64 (July), 50-64.

Meuter, Matthew L., Mary Jo Bitner, Amy L. Ostrom, and Stephen W. Brown (2005), "Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies," *Journal of Marketing*, 69 (April), 61-83.

Mills, Peter K., Richard B. Chase, and Newton Margulies (1983), "Motivating the Client/ Employee System as a Service Production Strategy," *Academy of Management Review*, 8 (2), 301-310.

Mills, Peter K. and James H. Morris (1986), "Clients as "Partial" Employees of Service Organizations: Role Development in Client Participation," *Academy of Management Review*, 11 (4), 726-735.

Moorman, Christine and Ann S. Miner (1997), "The Role of Organizational Memory in New Product Performance and Creativity," *Journal of Marketing Research*, 34 (February), 91–106.

Moreau, C. Page (2009), "Sources of Value in Customized Products," Customer Insights for Innovation, *Marketing Science Institute Conference*, (June).

Mowen, John and Kevin Voss (2008), "On Building Better Construct Measures: Implications of a General Hierarchical Model," *Psychology & Marketing*, 25 (6), 485-505.

Mumford, Michael D. (2003), "Where Have We Been, Where Are We Going? Taking Stock in Creativity Research," *Creativity Research Journal*, 15, 107-120.

Novemsky, Nathan and Daniel Kahneman (2005), "How Do Intentions Affect Loss Aversion?" *Journal of Marketing Research*, 42 (May), 139-140.

Nunnally, Jum and Ira Bernstein (1994), *Psychometric Theory*. Third Edition. New York: McGraw.

Okada, Erica Mina (2001), "Trade-ins, Mental Accounting, and Product replacement Decisions," *Journal of Consumer Research*, 27 (4), 433-446.

Osgood, Charles E. and Percy H. Tannenbaum (1955), " The Principle of Congruity in the Prediction of Attitude Change," *Psychological Review*, 62 (1), 42-55.

Ouschan, Robyn, Jillian C. Sweeney, and Lester W. Johnson (2000), "Dimensions of Patient Empowerment: Implications for Professional Services Marketing," *Health Marketing Quarterly*, 18 (1/2), 99-114.

Paulus, Paul B. and Huei-Chuan Yang (2000), "Idea Generation in Groups: A Basis for Creativity in Organizations," *Organizational Behavior and Human Decision* Processes, 82 (1), 76-87.

Park, Whan and Deborah J. MacInnis (2006), "What's In and What's Out: Questions on the Boundaries of the Attitude Construct," *Journal of Consumer Research*, 33 (June) 16-18.

Park, C.Whan and B. Mittal (1985), "A Theory of Involvement in Consumer Behavior: Problems and Issues," *Research in Consumer Behavior*, 1, 201–232.

Peck, Joann and Suzanne B. Shu (2009), "The Effect of Mere Touch on Perceived Ownership," *Journal of Consumer Research*, 36 (October) Online.

Pieters, Rik (1993), "Consumers and Their Garbage a Framework, and Some Experiences from The Netherlands with Garbage Separation Programs," in *European*

Advances in Consumer Research, Vol. 1, eds. W. Fred Van Raaij and Gary J. Bamossy, Provo, UT: Association for Consumer Research, 541-546.

Piller, Frank T (2005), "Mass Customization: Reflections on the State of the Concept," *The International Journal of Flexible Manufacturing Systems*, 16, 313-334.

Prahalad C.K. and Venkat Ramaswamy (2004), "Co-Creation Experiences: The Next Practice in Value Creation," *Journal of Interactive Marketing*, 18 (3), 5-14.

Prahalad C.K. and Venkat Ramaswamy (2004), "How to Put Your Customers to Work," *CIO Magazine*, April, 1-5.

Prahalad, C.K., Venkatram Ramaswamy, and M.S. Krishnan (2000), "Consumer Centricity," [Electronic version]. *InformationWeek*, 781, 67-76.

Price, Linda L., Eric J. Arnould, and Carolyn Folkman Curasi (2000), "Older Consumers' Disposition of Special Possessions," *Journal of Consumer Research*, 27 (September), 179-201.

Rempel, John K., Michael Ross, and John G. Holmes (2001), "Trust and Communicated Attributions in Close Relationships," *Journal of Personality and Social Psychology*, 81 (1), 57-64

Richins, Marsha (1994a), "Special Possessions and the Expression of Material Values," *Journal of Consumer Research*, 21 (December), 522-533.

Richins, Marsha (1994b), "Valuing Things: The Public and Private Meanings of Possessions," *Journal of Consumer Research*, 21 (December), 504-521.

Rodie, A.R. and S.S. Kleine (2000), "Customer participation in services production and delivery", in Swartz, T.A., Iacobucci, D. (Eds),*Handbook of Services Marketing and Management*, Sage, Thousand Oaks, CA, 111-25.

Roster, Catherine A. (2001), "Letting Go: The Process and Meaning of Dispossession in the Lives of Consumers," in *Advances in Consumer Research*, vol. 28, ed. Mary C. Gilly and Joan Meyers-Levy, Provo, UT. Association for Consumer Research, 425-430.

Ryan, Richard M. and Edward L. Deci (2000), "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being," *American Psychologist*, 55 (1), 68-78.

Sassenberg, Kai and Gordon B. Moskowitz (2005), "Don't Stereotype: Think Different! Overcoming Automatic Stereotype Activation by Mindset Priming," Journal *of Experimental Social Psychology*, 41, 506-514.

Sawhney, Mohanbir, Gianmario Verona, and Emanuela Prandelli (2005), "Collaborating to Create: The Internet as a Platform for Customer Engagement in Product Innovation," *Journal of Interactive Marketing*, 19 (4), 4-17.

Sawyer, Allan G. (1975), "Demand Artifacts in Laboratory Experiments in Consumer Research," *Journal of Consumer Research*, 1 (March), 20-30.

Schultz, Susan E., Robert A. Kleine, III, and Jerome B. Kernan (1989), "'These Are a Few of My Favorite Things': Toward an Explication of Attachment as a Consumer Behavior Construct," in Advances in Consumer Research, Vol. 16, T. Srull (ed.). Provo, UT: Association for Consumer Research, 359-366.

Sen, Sankar and Eric J. Johnson (1997), "Mere-Possession Effects without Possession in Consumer Choice," *Journal of Consumer Research*, 24 (June), 105-117.

Sharma, Arun and Lagdish N. Sheth (2004), "Web-based marketing: The Coming Revolution in Marketing Thought and Strategy," *Journal of Business Research*, 57, 696-702.

Sharma, Arun and Peter LaPlaca (2005), "Marketing in the Emerging Era of Build-to-Order Manufacturing," *Industrial Marketing Management*, 34, 476-486.

Sheth, Jagdish N., Rajendra S. Sisodia, and Arun Sharma (2000), "The Antecedents and Consequences of Customer-Centric Marketing," *Journal of the Academy of Marketing Science*, 28 (1), 55-66.

Simonson, Itamar (2005), "Determinants of Customers' Responses to Customized Offers: Conceptual Framework and Research Propositions," *Journal of Marketing*, 69 (January), 32-45.

Simonson, Itamar and Stephen M. Nowlis (2000), "The Role of Explanations and the Need for Uniqueness in Consumer Decision Making: Unconventional Choices Based on Reasons," *Journal of Consumer Research*, 27 (June), 49-68.

Sivadas, Eugene and Ravi Venkatesh (1995), "An Examination of Individual and Object Specific Influences on the Extended Self and its Relation to Attachment and Satisfaction," in F. Kardes and M. Sujan (eds.), *Advances in Consumer Research*. Vol 22. Provo UT: Association for Consumer Research, 406-409

Solomon, Michael R. (1986), "The Missing Link; Surrogate Consumers in the Marketing Chain," Journal of Marketing, 50 (October), 208-218.

Solomon, Michael, Greg W, Marshall, and Elnora Stuart (2006), *Marketing: Real People, Real Choices*, 4th Edition, Ed. Prentice Hall. Pearson.

Spake, Deborah F., Sharon E. Beatty, Beverly K. Brockman, and Tammy Neal Crutchfield, (2003), "Consumer Comfort in Service Relationships," *Journal of Service Research*, 5 (4), 316-332.

Spector, Paul E. (1981), *Research Designs*. Newbury Park, CA: Sage Publications.

Strahan, Robert and Kathleen Carrese Gerbasi (1972), "Short, Homogeneous Versions of the Crowne-Marlowe Social Desirability Scale," *Journal of Clinical Psychology*, 28 (2), 191-193.

Sumeet, Gupta, and Kim Hee-Woong (2007), "Developing the Commitment to Virtual Community: The Balanced Effects of Cognition and Affect," *Information Resources Management Journal*, 20 (1), 28-45.

Summers, John O. (2001), "Guidelines for Conducting Research and Publishing in Marketing: From Conceptualization to the Review Process," *Journal of the Academy of Marketing Science*, 29 (4), 405-415.

Taylor, Shelley E. (1991), "Asymmetrical Effects of Positive and Negative Events: The Mobilization-Minimization Hypothesis," *Psychological Bulletin*, 110 (1), 67-85.

Teas, R.K. and K.M. Palan (1997), "The Realms of Scientific Meaning Framework for Constructing Theoretically Meaningful Nominal Definitions of Marketing Concepts," *Journal of Marketing*, 61 (2), 52-67.

Thaler, Richard H. (1980), "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behavior and Organization*, 1, 39-60.

Thomson, Matthew (2006), "Human Brands: Investigating Antecedents to Consumers' Stronger Attachments to Celebrities," *Journal of Marketing*, 70 (3), 104-119.

Thomson, Matthew and Allison R. Johnson (2006), "Marketplace and Personal Space: Investigating the Differential Effects of Attachment Style Across Relationship Contexts," *Psychology and Marketing*, 23 (8), 711-726.

Thomson, Matthew, Deborah MacInnis, and Whan Park (2005), "The Ties That Bind: Measuring the Strength of Consumer's Emotional Attachment to Brands," *Journal of Consumer Psychology*, 15 (1), 77-91.

Torrance, Ellis Paul (1966), *Torrance Tests of Creativity*, Princeton, NJ: Personel Press.

Tversky, Amos (1977), "Features of Similarity," *Psychological Revie*w, 84 (July), 327-352.

Tybout, Alice and Brian Sternthal (2001), "Can I Test for Simple Effects in the Presence of an Insignificant Interaction?" *Journal of Consumer Psychology*, 10 (1&2), 5-10.

Voss, Kevin E., Eric R. Spangenberg, and Bianca Grohmann (2003), "Measuring the Hedonic and Utilitarian Dimensions of Consumer Attitude," *Journal of Marketing Research*, 40 (3), 310-320

Walker, Rebecca Elaine (2006), "Product Disposal," Dissertation. University of Texas at Austin. USA.

Wallendorf, Melanie and Eric Arnould (1988), "'My Favorite Things': A Cross-Cultural Inquiry into Object Attachment, Possessions, and Social Linkage," *Journal of Consumer Research*, 14 (March), 531-547

Wang, Guangping and Richard G. Netemeyer (2002), "The Effects of Job Autonomy, Customer Demandingness, and Trait Competitiveness on Salesperson Learning, Self-Efficacy, and Performance," *Journal of the Academy of Marketing Science*, 30 (3), 217-228.

Ward, James C. and John W. Barnes (2001), "Control and Affect: The Influence of Feeling in Control of the Retail Environment on Affect, Involvement, Attitude, and Behavior," *Journal of Business Research*, 54, 139-144.

Wathieu, L., L. Brenner, Z. Carmon, A. Chattopadhyay, A. Drolet, J. Gourville, A.V. Muthukrishnan, N. Novemsky, R.K. Ratner, K. Wertenbroch, and G. Wu (2002), "Consumer Control and Empowerment: A Primer," *Marketing Letters*. 13(3), 295-303.

Wells, William D. (1993), "Discovery-Oriented Consumer Research," *Journal of Consumer Research*, 19 (March), 489-504.

Wikstrom, Solveig (1995), "The Consumer as Co-Producer," *European Journal of Marketing*, 30 (4), 6-19.

Wind, (Jerry) Yoram and Arvind Rangaswamy (2001), "Customerization: The Next Revolution in Mass Customization," *Journal of Interactive Marketing*, 15 (1), 13-32.

Winer, B.J., D.R. Brown, and K.M. Michaels (1991), *Statistical Principles in Experimental Design*, 3rd Edition, McGraw-Hill, New York, NY.

Xu, Lan (2007), "Why Does a Consumer Participate in the Process of Co-creation?: A Study on Consumers' Creative Motivation," *Acta Psychologica Sinica*, 39 (2) 343 -354.

Young, Melissa M. and Melanie Wallendorf (1989), "Ashes to Ashes, Dust to Dust: Conceptualizing Consumer Disposition of Possessions," in *Proceedings of the American Marketing Association Winter Educator's Conference*, ed. Terry L Childers, Richard P. Bagozzi, and J. Paul Peter. Chicago: American Marketing Association, 33-39.

Youngdahl, William E. and Deborah L. Kellogg (1997), "The Relationships Between Service Customers' Quality Assurance Behaviors, Satisfaction, and Effort: A Cost of Quality Perspective," *Journal of Operations Management*, 15, 19-32.

APPENDICES

APPENDIX A - STUDY ONE INSTRUMENT

Please read the following instructions

Co-Production

This study is concerned with customer's evaluations of co-produced items.

On the next page you will find a set of questions about the activity you just went through. Please read the questions carefully. You will be asked questions about your beliefs, opinions, and feelings regarding the product.

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Make each item a separate and independent judgment. Work at moderate speed through these scales. Do not worry or puzzle over individual items. It is your first impressions, the immediate feelings about the items as they pertain to the pillow that we want. On the other hand, please do not be careless, because we want your true impressions. Answer ALL the items even if they seem repetitive.

For each item below, please circle the number closer to the extent of hands-on participation that you had in the previous activity.

	To No Extent						To Great Extent
Extent that I had hands-on participation in making the pillow.	1	2	3	4	5	6	7
Extent that I made the pillow with my own hands.	1	2	3	4	5	6	7
Extent that I physically contributed in making the pillow.	1	2	3	4	5	6	7

Please indicate your opinion and feelings about this pillow making activity

	To a low Degree								To a high Degree
To what degree did you enjoy the task?	1	2	3	4	5	6	7	8	9
To what degree did you have fun?	1	2	3	4	5	6	7	8	9
To what degree do you consider that the task was satisfying?	1	2	3	4	5	6	7	8	9
To what degree do you consider that the task was fun?	1	2	3	4	5	6	7	8	9
To what degree did you feel frustrated?	1	2	3	4	5	6	7	8	9
To what degree did you feel annoyed?	1	2	3	4	5	6	7	8	9

For each item below, please circle the number closer to your feelings about the pillow.

	Strongly Disagree						Strongly Agree
There is an association between the pillow and me.	1	2	3	4	5	6	7
There is a link between the pillow and me.	1	2	3	4	5	6	7
My pillow and I are somehow related.	1	2	3	4	5	6	7
There is a connection between the pillow and myself.	1	2	3	4	5	6	7

Please select the number that best describes your attitudes toward this pillow:

Effective	1	2	3	4	5	6	7	Not Effective
Not fun	1	2	3	4	5	6	7	Fun
Helpful	1	2	3	4	5	6	7	Unhelpful
Dull	1	2	3	4	5	6	7	Exciting
Functional functional	1	2	3	4	5	6	7	Not
Not delightful	1	2	3	4	5	6	7	Delightful
Necessary	1	2	3	4	5	6	7	Unnecessary
Not thrilling	1	2	3	4	5	6	7	Thrilling
Practical	1	2	3	4	5	6	7	Impractical
Enjoyable	1	2	3	4	5	6	7	Unenjoyable

For each item below, please circle the number closer to your feelings about the pillow.

	Strongly Disagree						Strongly Agree
I feel attached to this pillow.	1	2	3	4	5	6	7
I feel a bond to this pillow.	1	2	3	4	5	6	7

For each item below, please circle the number closer to the adjective that you believe describes your feelings about the pillow.

No Love At All	1	2	3	4	5	6	7	A Strong Love
No Emotional Bond	1	2	3	4	5	6	7	A Strong Emotional Bond
Not Emotionally Connected	1	2	3	4	5	6	7	Emotionally Connected
Not Linked By Feelings	1	2	3	4	5	6	7	Linked By Feelings
No Feelings of Attachment	1	2	3	4	5	6	7	Strong Feelings of Attachment

Please answer the following questions about the pillow in different imaginary scenarios.

Suppose you were asked to sell this pillow that you made, how much money would you ask for?

$_____.

Suppose you had to pay for making this pillow, how much money would you pay for this pillow?

$_____.

Suppose you were given the chance to buy accessories for this pillow (cover, perfume, additional stuffing, brush, etc). How likely would you be to buy any of the accessories to keep your pillow in good conditions?

Unlikely	1	2	3	4	5	6	7	Likely
Improbable	1	2	3	4	5	6	7	Probable
Impossible	1	2	3	4	5	6	7	Possible

Suppose you were given the chance to make another pillow just like this one. How likely would you be to participate in making it again?

Unlikely	1	2	3	4	5	6	7	Likely
Improbable	1	2	3	4	5	6	7	Probable
Impossible	1	2	3	4	5	6	7	Possible

Suppose this activity was open to the public. How likely would you be to recommend a friend to come and make a pillow?

Unlikely	1	2	3	4	5	6	7	Likely
Improbable	1	2	3	4	5	6	7	Probable
Impossible	1	2	3	4	5	6	7	Possible

Suppose that at the end of this study, you could exchange this pillow (which you get to keep) for one of the following items. How likely would you be to exchange your pillow?

Exchange this pillow for a candy bar.

Unlikely 1 2 3 4 5 6 7 Likely

Exchange this pillow for an OSU Agenda.

Unlikely 1 2 3 4 5 6 7 Likely

Exchange this pillow for a 1 GB USB flash drive.

Unlikely 1 2 3 4 5 6 7 Likely

Please indicate on a scale from 1 ("not at all likely") to 9 ("extremely likely") how likely are you to dispose of the pillow in each of the following ways:

	Not at all likely								Extremely likely
Throw it away	1	2	3	4	5	6	7	8	9
Put it in a paid storage	1	2	3	4	5	6	7	8	9
Try to sell it (e.g. on Ebay, at a garage sale)	1	2	3	4	5	6	7	8	9
Donate it (to a goodwill or other charity)	1	2	3	4	5	6	7	8	9
Replace it with a new one.	1	2	3	4	5	6	7	8	9
Give it to a friend.	1	2	3	4	5	6	7	8	9
Give it to a family member.	1	2	3	4	5	6	7	8	9

For each item below, please circle the number closer to the adjective that you believe describes your feelings about the pillow.

	Strongly Disagree						Strongly Agree
I would feel remorseful if I got rid of my pillow.	1	2	3	4	5	6	7
I would feel guilty if I did not keep my pillow.	1	2	3	4	5	6	7
I would not feel sorry for throwing away my pillow. (R)	1	2	3	4	5	6	7
I expect that I would feel bad when I give my pillow away	1	2	3	4	5	6	7
I would feel guilty if I gave my pillow away.	1	2	3	4	5	6	7

YOU ARE ALMOST DONE. The following questions are all about you….

Please select the number that best fits your opinions, beliefs and ideas.

	Strongly Disagree						Strongly Agree
When walking through stores, I can't help touching all kinds of products.	-3	-2	-1	0	1	2	3
Touching products can be fun.	-3	-2	-1	0	1	2	3
I place more trust in products that can be touched before purchase.	-3	-2	-1	0	1	2	3
I feel more comfortable purchasing a product after physically examining it.	-3	-2	-1	0	1	2	3
When browsing in stores, it is important for me to handle all kinds of products.	-3	-2	-1	0	1	2	3
If I can't touch the product in the store, I am reluctant to purchase the product.	-3	-2	-1	0	1	2	3
I like to touch products even if I have no intention of buying them.	-3	-2	-1	0	1	2	3
I feel more confident makign a purchase after touching a product.	-3	-2	-1	0	1	2	3
When browsing in stores, I like to touch lots of products.	-3	-2	-1	0	1	2	3
The only way to make sure a product is worth buying is to actually touch it.	-3	-2	-1	0	1	2	3
There are many products that I would only buy if I could handle them before purchase.	-3	-2	-1	0	1	2	3
I find myself touching all kinds of products in stores.	-3	-2	-1	0	1	2	3

Please circle true or false to the following statements.

You are always willing to admit it when you make a mistake	TRUE	FALSE
You always try to practice what you preach	TRUE	FALSE
You never get upset being asked to return a favor	TRUE	FALSE
You have never been annoyed when people expressed ideas very different from your own	TRUE	FALSE
You have never deliberately said something that hurt someone's feeling	TRUE	FALSE
You like to gossip at times	TRUE	FALSE
There have been occasions when you took advantage of someone	TRUE	FALSE
You sometimes try to get even rather than forgive and forget	TRUE	FALSE
At times you have really insisted on having things your own way	TRUE	FALSE
There have been occasions when you felt like smashing things	TRUE	FALSE

ONE MORE PAGE

Do you think that your input in making the pillow influenced the pillow's quality?
1) My input did not influence the quality
2) My input made the quality better
3) My input made the quality worse

What do you think about the overall quality of the pillow?

1) Good quality 2) Regular quality 3) Poor quality

How many times have you been to Build-A-Bear before?

0 1-3 4-7 7-10 More than 10

How many teddy bears did you make for yourself?

0 1-3 4-7 7-10 More than 10

How many times have you ever participated in making any other type of product that requires your specific hands on input such as scrapbooking, jewelry making, or quilting?

0 1-3 4-7 7-10 More than 10

Age (please specify): _____

Year in School: Freshman Sophomore Junior Senior Grad

Nationality: USA Other (please specify): _____

In the following lines, could you guess the purpose of this research?

Do you have any other comments or thoughts about this study?

Name:_____ email:_____

You will be contacted 3 weeks later for information regarding this activity. Your personal information, including your name, will be protected and destroyed once we get your final responses. Your name will be replaced by a number ID. Thank you for your participation.

APPENDIX B - HIGH CREATIVITY PRIME

Number on your label_____

Please read the following instructions (A)

On the next page you will find instructions on how to write about a specific passage in your life. Please read the instructions carefully.

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Please think about three situations in your life when you were creative. Please write down the three situations.

Situation 1

Situation 2

Situation 3

Now please join the dots in the following figures in ANYWAY that you want. Be as original and creative as possible. The only requirement is that all dots should be covered.

Figure 1 (example)

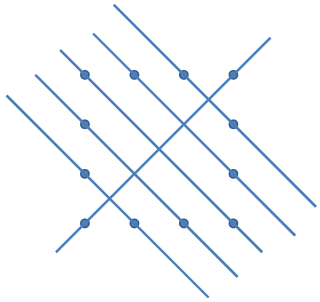
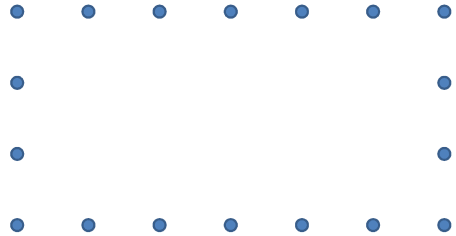


Figure 2



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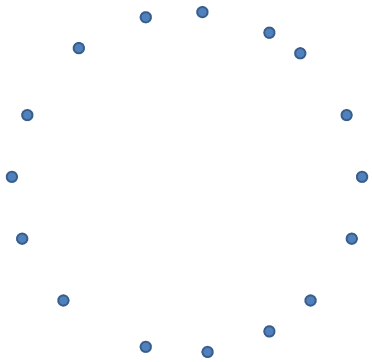

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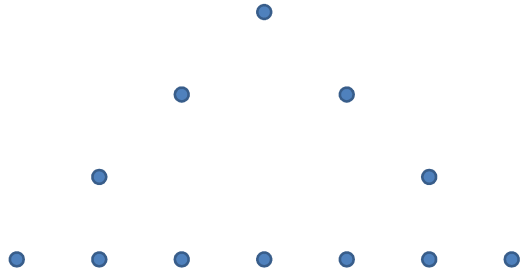
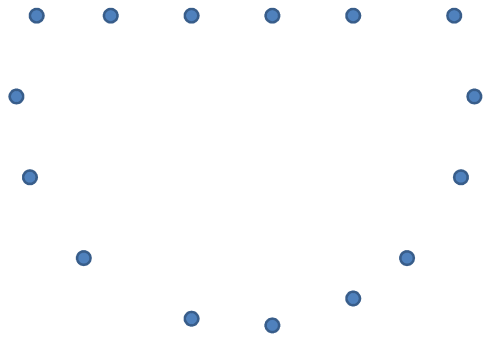


Figure 5

Figure 6



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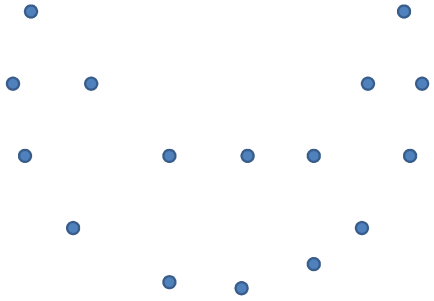

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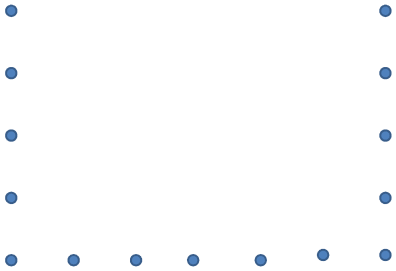

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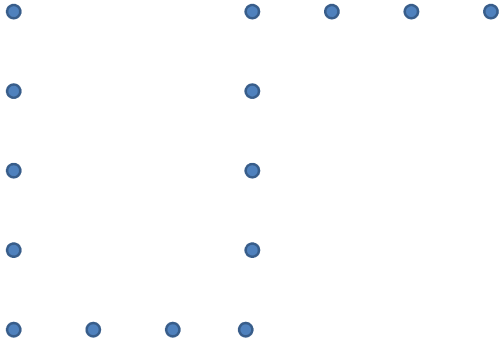


Figure 10

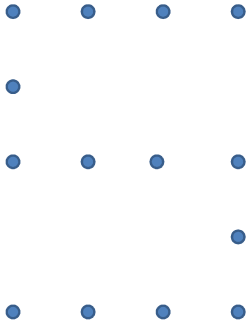


Figure 11

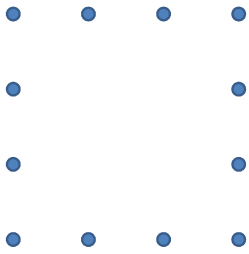
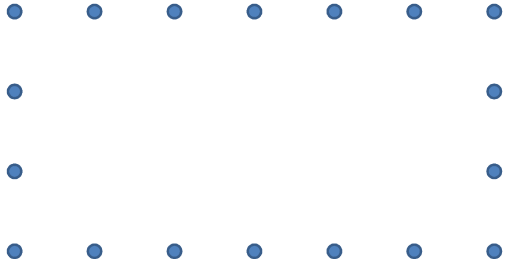


Figure 12



Make your answer as honest and spontaneous as possible. It is your first impressions, the immediate feelings that we want. On the other hand, please do not be careless, because we want your true impressions. Remember that your participation is anonymous and voluntary.

Please circle the number that best suits your feelings and opinions **<u>regarding the previous task.</u>**

	Strongly Disagree						Strongly Agree
I felt that I was creative.	1	2	3	4	5	6	7
I did creative work.	1	2	3	4	5	6	7
I felt imaginative when I was doing the task.	1	2	3	4	5	6	7

Now please answer how creative **<u>are you feeling</u>** at this moment.

	Low Degree						High Degree
To what degree do you feel creative?	1	2	3	4	5	6	7
To what degree do you feel imaginative?	1	2	3	4	5	6	7

	Strongly Disagree						Strongly Agree
I feel that I could do creative work now.	1	2	3	4	5	6	7
I feel I could be imaginative now.	1	2	3	4	5	6	7

APPENDIX C - LOW CREATIVITY PRIME

Number on our label_____

Please read the following instructions (B)

On the next page you will find instructions on how to write about a specific passage in your life. Please read the instructions carefully.

This research is being conducted by and under the supervision of:

Kevin E. Voss, Ph.D.
Associate Professor of Marketing
Spears School of Business
Oklahoma State University
vossk@okstate.edu
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Fernando Jiménez
Doctoral Student
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Oklahoma State University
fernando.Jiménez@okstate.edu
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Please think about three situations in your life when you had to do a repetitive and monotonous task. Please write down the three situations.

Situation 1

Situation 2

Situation 3

Now please join the dots in the following figures (squares, rectangles, etc) **<u>following the numbered sequence.</u>**

Figure 1

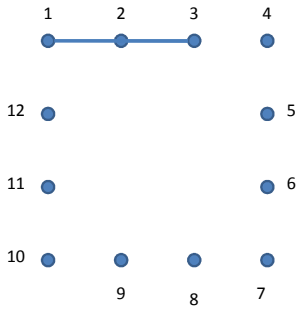


Figure 2

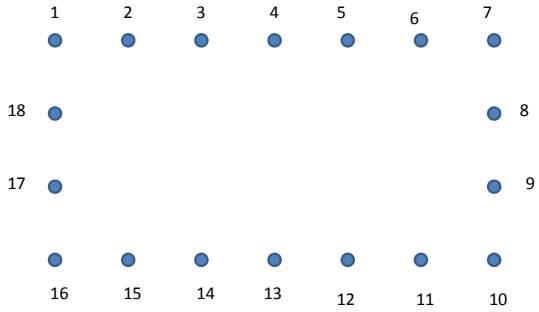


Figure 3

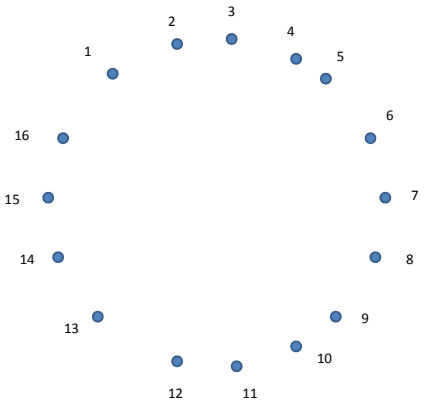


Figure 4

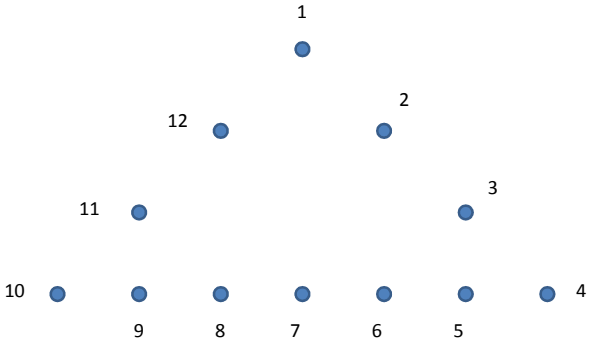


Figure 5

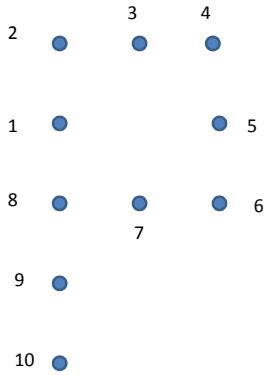


Figure 6

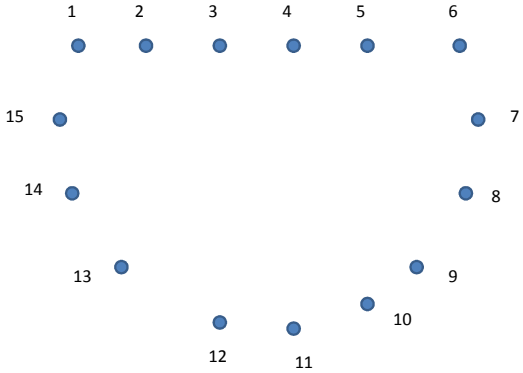


Figure 7

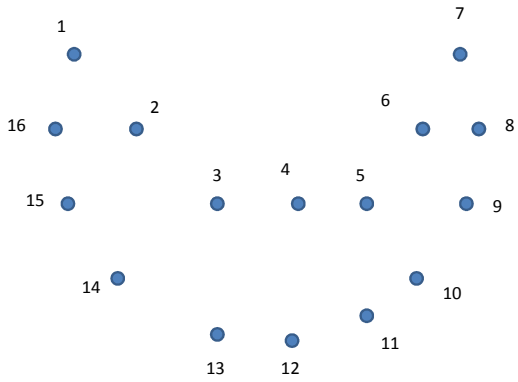


Figure 8

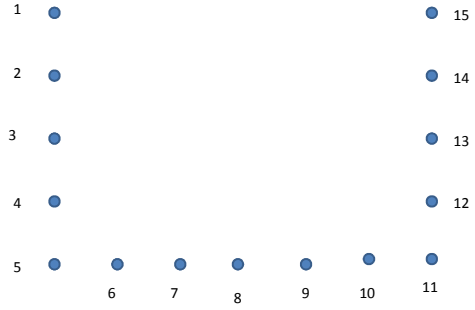


Figure 9

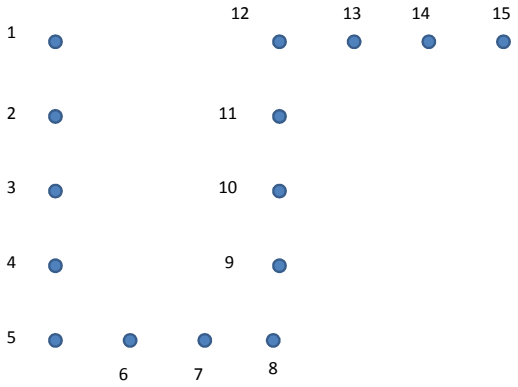


Figure 10

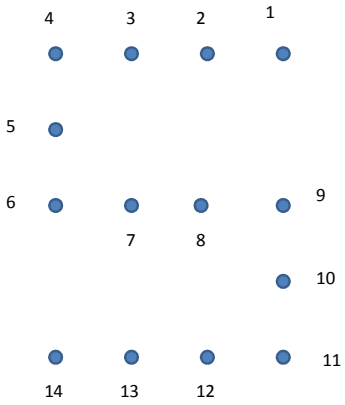


Figure 11

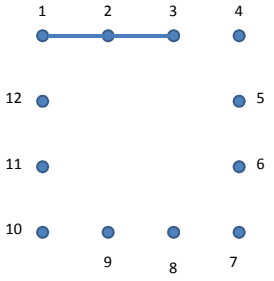
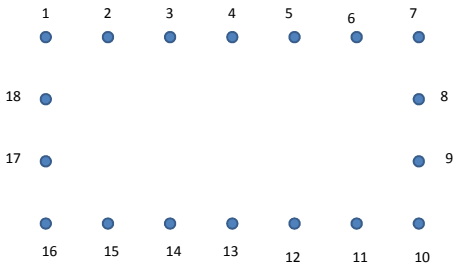


Figure 12



Make your answer as honest and spontaneous as possible. It is your first impressions, the immediate feelings that we want. On the other hand, please do not be careless, because we want your true impressions. Remember that your participation is anonymous and voluntary.

Please circle the number that best suits your feelings and opinions **<u>regarding the previous task.</u>**

	Strongly Disagree						Strongly Agree
I felt that I was creative.	1	2	3	4	5	6	7
I did creative work.	1	2	3	4	5	6	7
I felt imaginative when I was doing the task.	1	2	3	4	5	6	7

Now please answer how creative **<u>are you feeling</u>** at this moment.

	Low Degree						High Degree
To what degree do you feel creative?	1	2	3	4	5	6	7
To what degree do you feel imaginative?	1	2	3	4	5	6	7

	Strongly Disagree						Strongly Agree
I feel that I could do creative work now.	1	2	3	4	5	6	7
I feel I could be imaginative now.	1	2	3	4	5	6	7

Thank you for your participation. Please give this material back to the person in charge.

APPENDIX D - STUDY 2 INSTRUMENT

Please read the following instructions

Co-Production

This study is concerned with customer's evaluations of co-produced items.

On the next page you will find a set of questions about the activity you just went through. Please read the questions carefully. You will be asked questions about your beliefs, opinions, and feelings regarding the product.

This research is being conducted by and under the supervision of:

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Fernando Jiménez
Doctoral Student
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Oklahoma State University
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(405) 744-8674

Make each item a separate and independent judgment. Work at moderate speed through these scales. Do not worry or puzzle over individual items. It is your first impressions, the immediate feelings about the items as they pertain to the activity and the mug that we want. On the other hand, please do not be careless, because we want your true impressions. Answer ALL the items even if they seem repetitive.

For each item below, please circle the number closer to the extent of autonomy that you had in the previous activity.

	Low Extent								High Extent
To what extent did you feel free to make your own choices?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to express yourself?	1	2	3	4	5	6	7	8	9
To what extent did you do "your own thing"?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to communicate your thougths?	1	2	3	4	5	6	7	8	9
To what extent did you feel free to express your feelings?	1	2	3	4	5	6	7	8	9

For each item below, please circle the number closer to the extent of hands-on participation that you had in the previous activity.

	To No Extent						To Great Extent
Extent that I had hands-on participation in making the mug.	1	2	3	4	5	6	7
Extent that I made part of the mug with my own hands.	1	2	3	4	5	6	7
Extent that I physically contributed in making the mug as is.	1	2	3	4	5	6	7

Please indicate your opinion and feelings about this activity

	To a low Degree								To a high Degree
To what degree did you enjoy the task?	1	2	3	4	5	6	7	8	9
To what degree did you have fun?	1	2	3	4	5	6	7	8	9
To what degree do you consider that the task was satisfying?	1	2	3	4	5	6	7	8	9
To what degree do you consider that the task was fun?	1	2	3	4	5	6	7	8	9
To what degree did you feel frustrated?	1	2	3	4	5	6	7	8	9
To what degree did you feel annoyed?	1	2	3	4	5	6	7	8	9

How much do you like the mug's decoration?

Not at all	1	2	3	4	5	6	7	8	9	10 Very much

How much do you identify with the mug's decoration?

Not at all	1	2	3	4	5	6	7	8	9	10 Very much

For each item below, please circle the number closer to your feelings about the mug.

	Strongly Disagree						Strongly Agree
There is an association between the mug and me.	1	2	3	4	5	6	7
There is a link between the mug and me.	1	2	3	4	5	6	7
My mug and I are somehow related.	1	2	3	4	5	6	7
There is a connection between the mug and myself.	1	2	3	4	5	6	7

Please select the number that best describes your attitudes toward this mug:

Effective	1	2	3	4	5	6	7	Not Effective
Not fun	1	2	3	4	5	6	7	Fun
Helpful	1	2	3	4	5	6	7	Unhelpful
Dull	1	2	3	4	5	6	7	Exciting
Functional	1	2	3	4	5	6	7	Not functional
Not delightful	1	2	3	4	5	6	7	Delightful
Necessary	1	2	3	4	5	6	7	Unnecessary
Not thrilling	1	2	3	4	5	6	7	Thrilling
Practical	1	2	3	4	5	6	7	Impractical
Enjoyable	1	2	3	4	5	6	7	Unenjoyable

For each item below, please circle the number closer to your feelings about the mug.

	Strongly Disagree						Strongly Agree
I feel attached to this mug.	1	2	3	4	5	6	7
I feel a bond to this mug.	1	2	3	4	5	6	7

For each item below, please circle the number closer to the adjective that you believe describes your feelings about the mug.

No Love At All	1	2	3	4	5	6	7	A Strong Love
No Emotional Bond	1	2	3	4	5	6	7	A Strong Emotional Bond
Not Emotionally Connected	1	2	3	4	5	6	7	Emotionally Connected
Not Linked By Feelings	1	2	3	4	5	6	7	Linked By Feelings
No Feelings of Attachment	1	2	3	4	5	6	7	Strong Feelings of Attachment

---

Please answer the following questions about the pillow in different imaginary scenarios.

Suppose you were asked to sell this mug that you made, how much money would you ask for?

$_____.

Suppose you had to pay for making this mug, how much money would you pay?

$_____.

Suppose you were given the chance to buy accessories for this mug (cover, case, additional colors to paint, etc). How likely would you be to buy any of the accessories to keep your mug in good conditions?

Unlikely	1	2	3	4	5	6	7	Likely
Improbable	1	2	3	4	5	6	7	Probable
Impossible	1	2	3	4	5	6	7	Possible

Suppose you were given the chance to make another mug just like this one. How likely would you be to participate in making it again?

Unlikely	1	2	3	4	5	6	7	Likely
Improbable	1	2	3	4	5	6	7	Probable
Impossible	1	2	3	4	5	6	7	Possible

Suppose this activity was open to the public. How likely would you be to recommend a friend to come and make a mug?

Unlikely	1	2	3	4	5	6	7	Likely
Improbable	1	2	3	4	5	6	7	Probable
Impossible	1	2	3	4	5	6	7	Possible

Suppose that at the end of this study, you could exchange this mug (which you get to keep) for one of the following items. How likely would you be to exchange your mug?

Exchange this mug for a candy bar.

Unlikely	1	2	3	4	5	6	7	Likely

Exchange this mug for an OSU Agenda.

Unlikely	1	2	3	4	5	6	7	Likely

Exchange this mug for a 1 GB USB flash drive.

Unlikely	1	2	3	4	5	6	7	Likely

Please indicate on a scale from 1 (“not at all likely”) to 9 (“extremely likely”) how likely are you to dispose of the mug in each of the following ways:

	Not at all likely								Extremely likely
Throw it away	1	2	3	4	5	6	7	8	9
Put it in a paid storage	1	2	3	4	5	6	7	8	9
Try to sell it (e.g. on Ebay, at a garage sale)	1	2	3	4	5	6	7	8	9
Donate it (to a goodwill or other charity)	1	2	3	4	5	6	7	8	9
Replace it with a new one.	1	2	3	4	5	6	7	8	9
Give it to a friend.	1	2	3	4	5	6	7	8	9
Give it to a family member.	1	2	3	4	5	6	7	8	9

For each item below, please circle the number closer to the adjective that you believe describes your feelings about the mug.

	Strongly Disagree						Strongly Agree
I would feel remorseful if I got rid of my mug.	1	2	3	4	5	6	7
I would feel guilty if I did not keep my mug.	1	2	3	4	5	6	7
I would not feel sorry for throwing away my mug.	1	2	3	4	5	6	7
I expect that I would feel bad when I give my mug away.	1	2	3	4	5	6	7
I would feel guilty if I gave my mug away.	1	2	3	4	5	6	7

YOU ARE ALMOST DONE. The following questions are all about you….

Please select the number that best fits your opinions, beliefs and ideas.

	Strongly Disagree						Strongly Agree
When walking through stores, I can't help touching all kinds of products.	-3	-2	-1	0	1	2	3
Touching products can be fun.	-3	-2	-1	0	1	2	3
I place more trust in products that can be touched before purchase.	-3	-2	-1	0	1	2	3
I feel more comfortable purchasing a product after physically examining it.	-3	-2	-1	0	1	2	3
When browsing in stores, it is important for me to handle all kinds of products.	-3	-2	-1	0	1	2	3
If I can't touch the product in the store, I am reluctant to purchase the product.	-3	-2	-1	0	1	2	3
I like to touch products even if I have no intention of buying them.	-3	-2	-1	0	1	2	3
I feel more confident makign a purchase after touching a product.	-3	-2	-1	0	1	2	3
When browsing in stores, I like to touch lots of products.	-3	-2	-1	0	1	2	3
The only way to make sure a product is worth buying is to actually touch it.	-3	-2	-1	0	1	2	3
There are many products that I would only buy if I could handle them before purchase.	-3	-2	-1	0	1	2	3
I find myself touching all kinds of products in stores.	-3	-2	-1	0	1	2	3

Please circle true or false to the following statements.

You are always willing to admit it when you make a mistake	TRUE	FALSE
You always try to practice what you preach	TRUE	FALSE
You never get upset being asked to return a favor	TRUE	FALSE
You have never been annoyed when people expressed ideas very different from your own	TRUE	FALSE
You have never deliberately said something that hurt someone's feeling	TRUE	FALSE
You like to gossip at times	TRUE	FALSE
There have been occasions when you took advantage of someone	TRUE	FALSE
You sometimes try to get even rather than forgive and forget	TRUE	FALSE
At times you have really insisted on having things your own way	TRUE	FALSE
There have been occasions when you felt like smashing things	TRUE	FALSE

Do you think that your input in making the mug influenced the mug's quality?
1) My input did not influence the quality
2) My input made the quality better

3) My input made the quality worse

What do you think about the overall quality of the mug?

1) Good quality 2) Regular quality 3) Poor quality

How many times have you been to Build-A-Bear before?

0 1-3 4-7 7-10 More than 10

How many teddy bears did you make for yourself?

0 1-3 4-7 7-10 More than 10

How many times have you ever participated in making any other type of product that requires your specific hands on input such as carpentry, making toys, scrapbooking, jewelry making, or quilting?

0 1-3 4-7 7-10 More than 10

Gender: F M

Age (please specify): _____

Year in School: Freshman Sophomore Junior Senior Grad

Nationality: USA Other (please specify): _____

In the following lines, could you guess the purpose of this research?

Do you have any other comments or thoughts about this study?

You will be contacted 3 weeks later for information regarding this activity. Your personal information, including your name, will be protected and destroyed once we get your final responses. Your name will be replaced by a number ID. Thank you for your participation.

APPENDIX E - IRB APPROVAL FORMS

Oklahoma State University Institutional Review Board

Date:	Thursday, September 11, 2008
IRB Application No	BU0819
Proposal Title:	The Role of Emotional Attachment in Customer Co-Production
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 9/10/2009

Principal Investigator(s):

Fernando Jimenez
405 Business
Stillwater, OK 74078

Kevin E. Voss
211 Business
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter These are the versions that must be used during the study

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year This continuation must receive IRB review and approval before the research can continue
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date:	Tuesday, February 03, 2009
IRB Application No	BU093
Proposal Title:	The Role of Emotional Attachment in Customer Co-Production Study 2
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 2/2/2010

Principal Investigator(s):

Fernando Jimenez
405 Business
Stillwater, OK 74078

Kevin E Voss
211 Business
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46

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Sincerely,

Shelia Kennison, Chair
Institutional Review Board

VITA

Fernando Rafael Jiménez Arévalo

Candidate for the Degree of

Doctor of Philosophy

Dissertation: THE ROLE OF EMOTIONAL ATTACHMENT IN CO-PRODUCTION

Major Field: Business Administration

Biographical:

Education: Graduated from the Universidad Autónoma del Estado de México, Toluca, México in March 2001 with a Bachelor of Science degree in Business Administration; received a Master in Science in International Studies from Oklahoma State University, Stillwater, Oklahoma in December 2005. Completed the requirements for the degree of Doctor of Philosophy in Marketing at Oklahoma State University in July 2009.

Experience: Worked as cash office for Nueva Wal-Mart de México S.A. de C.V. from 1997-1999. Worked as outlet manager for Visaflor in 2001. Worked as consultant at Global Management Solutions from 2001-2003. Employed as instructor from 1999-2003 at Universidad Autónoma del Estado de México. Worked as instructor at Universidad Siglo XXI from 2002-2003. Employed by Universidad del Valle de México in 2003. Employed as a graduate assistant in the School of International Studies at Oklahoma State University from 2004-2005. Employed as a graduate teaching associate in the marketing department at Oklahoma State University from 2005 to 2009.

Professional Memberships: American Marketing Association, Association for Consumer Research, Academy of Marketing Science.

Name: Fernando R. Jiménez Arévalo Date of Degree: July, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: THE ROLE OF EMOTIONAL ATTACHMENT IN CO-PRODUCTION

Pages in Study: 208 Candidate for the Degree of Doctor of Philosophy

Major Field: Business Administration

Scope and Method of Study: Drawing from an exhaustive literature review, I find that co-production which is the customer's hands-on participation in making an object and emotional attachment (EA) which reflects an emotional bond connecting an individual with another entity, share common antecedents and consequences, thus suggesting that they are related. This dissertation extends the emotional attachment literature by: (1) examining the effects of consumer co-production on the formation of EA, and (2) examining the role of task enjoyment in the reduction of EA from co-production. Based on related theories, meaningful relationships between EA and co-production are proposed and hypotheses were stated. The hypotheses were tested by conducting two experimental studies. Study one explores the role of EA created by co-production and its effect on the willingness to dispose of the object (WTD). EA is proposed to mediate the relationship between customer co-production and WTD. Also proposed is the moderating effect of meness; which refers to the level of association of an object and the self. I test these relationships using a 2 (co-production: low, high) × 2 (Meness: low high) between-subjects experimental design. In Study Two, I investigate the impact of task enjoyment in the formation of EA due to co-production. I argue that by manipulating autonomy and creativity in the task, WTD increases due to the mediation of task enjoyment and the reduction of EA to the object. I test these relationships using a 2 (autonomy: low, high) × 2 (Creativity: low high). Both experiments were conducted in a lab setting where participants were randomly assigned to one of the conditions to engage in a co-production exercise.

Findings and Conclusions:

The results of this dissertation add to the literature of emotional attachment and customer co-production. The findings show that co-production and emotional attachment are related when there is a high level of task enjoyment. This emotional attachment in turn reduces the willingness to dispose of an object. However, the results should be taken with caution since there are major generalizability and measurement limitations in the study. More research is needed to understand how customers value their participation in the production of their goods.

ADVISER'S APPROVAL: Dr. Kevin E. Voss